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COSTA MESA

GENERAL
PLAN

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1990 GENERAL PLAN

City of Costa Mesa, California

March 1992

Adopted by Resolution #92-27

CITY OF COSTA MESA

INTER OFFICE MEMORANDUM

May 1, 1992

TO 1990 General Plan Holders FROM R. Michael Robinson
Principal Planner *RMR*

RE: GENERAL PLAN CORRECTIONS AND AMENDMENT

Following publication and distribution of the 1990 General Plan, two minor errors were noted on pages 232 and 398 of the plan text. A minor mapping error was also noted in Figure 72 (page 404). Revised copies of these pages are attached for replacement in your copy of the plan.

Also attached for inclusion in the 1990 General Plan is the new Growth Management Element. This is the first amendment to the plan (adopted April 6, 1992). The element text should be inserted following the last page of the Land Use Element (page 414). The Growth Management Element policies are also attached and should be inserted at the end of the Goals, Objectives and Policies section, beginning with page 457. A revised Table of Contents with the new Growth Management Element (page i) and a new element divider are also provided.

Finally, a summary table listing and describing amendments to the 1990 General Plan is also attached. This table should be inserted immediately after the inside title page. This table will be updated following each amendment and will be distributed to all current holders of the plan. This should ensure that you have an up-to-date plan at all times.


Should you have any questions regarding the attached material, please feel free to contact me at (714) 754-5610.

RMR(GPCORR)

SUMMARY OF GENERAL PLAN AMENDMENTS

The 1990 General Plan was adopted by the Costa Mesa City Council on March 16, 1992. Since adoption, the plan has been amended. The following table provides a list and a brief description of the amendments.

<u>AMENDMENT NUMBER</u>	<u>DATE OF ADOPTION</u>	<u>DESCRIPTION OF AMENDMENT</u>
GP-92-01	April 6, 1992	Adoption of Measure M Growth Management Element



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COSTA MESA 1990 GENERAL PLAN

PURPOSE

The Costa Mesa 1990 General Plan represents the most comprehensive planning document for the City. This 1990 General Plan supersedes the previous 1981 General Plan, and it is intended to guide development throughout the 1990's. Because of the increasing complexity of the City and the recent evolution of State planning law, the General Plan is more than a long term land use map. The process of preparing and adopting the General Plan has provided decision-makers and citizens with the opportunity of debating policies involving a variety of social, economic and environmental issues. This plan is the culmination of over four years of review and debate. By establishing this policy framework for the City's future, the General Plan is intended to provide for orderly development and consistent decision-making.

ORGANIZATION

The Costa Mesa 1990 General Plan is organized to encourage development of interrelationships between issues, understanding of the complexity of the urban environment, and the benefits of the rational planning model. Three elements are included: Environmental Resources/Management, Community Development/Management, and Land Use. The subject areas required in local government General Plans by the State of California are included along with a variety of elements considered important to the City of Costa Mesa.

GENERAL PLAN REQUIREMENTS

State law (Government Code Section 65300) requires all cities and counties in California to prepare and adopt General Plans to guide the physical development of their respective jurisdictions. Additionally, Government Code Section 65302 mandates the inclusion of seven specific elements in local government General Plans. These elements include: (1) Land Use, (2) Circulation, (3) Housing, (4) Open Space, (5) Conservation, (6) Noise, and (7) Safety. Recognizing the interrelationships of these elements, State law permits the consolidation of related topics or issues as long as the alternative format addresses all of the requirements of the individual elements. The following matrix correlates the seven mandatory elements with their locations in the Costa Mesa 1990 General Plan.

GENERAL PLAN REQUIREMENTS MATRIX

LOCATION IN COSTA MESA 1990 GENERAL PLAN			
<u>MANDATORY ELEMENT</u>	<u>ELEMENT*</u>	<u>SUBELEMENT</u>	<u>PAGE NUMBER</u>
1. Land Use	LUE	-	346
2. Circulation	CD/ME	Transportation	302
	CD/ME	Public Facilities and Services	256
3. Housing	CD/ME	Housing	197
4. Open Space	ER/ME	Open Space	64
	LUE	-	346
5. Conservation	ER/ME	Hydrology	29
	ER/ME	Biological Resources	53
	ER/ME	Cultural Resources	125
	CD/ME	Public Facilities and Services	256
	CD/ME	Coastal Resources	173
6. Noise	ER/ME	Noise	140
	LUE	-	346
7. Safety	ER/ME	Hydrology	29
		Geology	83
	CD/ME	Public Facilities and Services	256

*ER/ME = Environmental Resources/Management Element
 CD/ME = Community Development/Management Element
 LUE = Land Use Element

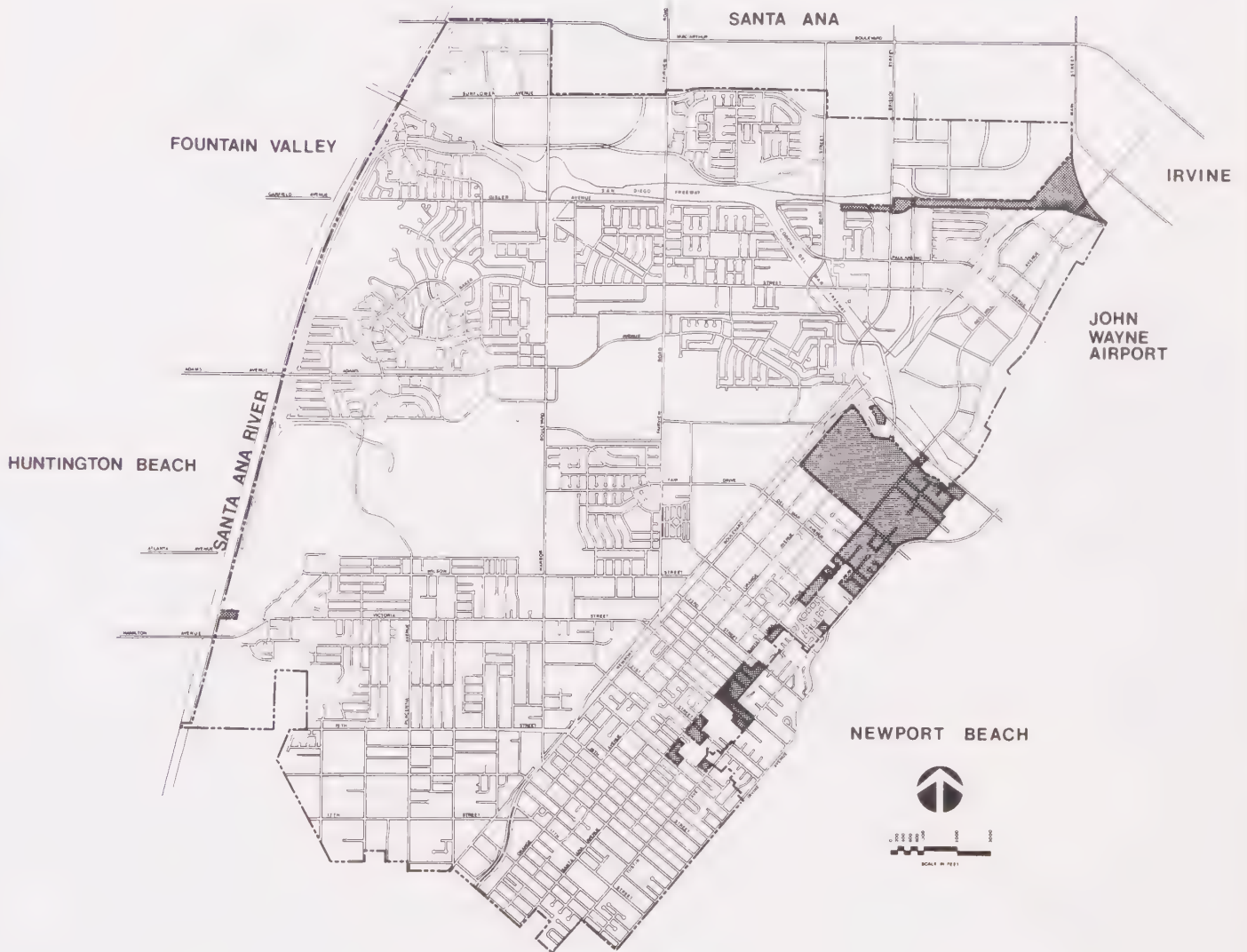


FIGURE 1

REGIONAL SETTING



PLANNING AREA



----- CITY LIMITS [MAY 1987]



COUNTY ISLANDS WITHIN
CITY SPHERE OF INFLUENCE

FIGURE 2





City of
COSTA MESA

ENVIRONMENTAL
RESOURCES/
MANAGEMENT
LIVABILITY

Air Quality

AIR QUALITY

Air pollution is a major concern because of the widespread public health hazards and property damage characteristics attributed to certain contaminants. It is also a regional problem which does not respect jurisdictional boundaries. Because of this, Costa Mesa must recognize its place as both a generator and receptor of a portion of the region's air pollution.

The nature of air pollution problems has prompted State and Federal legislation mandating the preparation of regional plans to improve air quality. Both the Southern California Association of Governments (SCAG) and the South Coast Air Quality Management district (SCAQMD) are responsible for the preparation of the Air Quality Management Plan (AQMP) for the South Coast Air Basin (SoCAB).

POLLUTION COMPONENTS

Air pollution is comprised of many substances generated from a variety of sources, both man-made and natural. The major pollutants and contaminants are briefly described in the following paragraphs.

Oxidant

Oxidant is California's worst air pollution problem and is most critical in the metropolitan areas of Southern California. This pollutant is not emitted directly from any source, but is the result of photochemical reactions involving nitrogen oxides and hydrocarbons under the influence of sunlight. Ozone, a colorless toxic gas, is the primary component.

Oxidants can constrict breathing and aggravate respiratory illnesses, such as emphysema, bronchitis and asthma. Certain concentrations can also aggravate chronic heart and lung disorders and some anemias.

Oxidants can reduce the size and yield of agricultural crops and cause leaf damage to vegetation. It can also fade paint, corrode metal and destroy rubber products.

Carbon Monoxide

Carbon monoxide is formed from incomplete burning of carbon containing fuels, such as gasoline, fuel oil and other petroleum products. It is a colorless and odorless gas that can seriously interrupt oxygen transportation in blood and can reduce oxygen supplies to the brain.

Carbon monoxide concentrations of 50 parts per million parts of air can cause dizziness, nausea and lack of coordination in healthy individuals. This increased stress on respiratory systems can aggravate chronic heart disorders and can cause heart attacks.

Lead

Lead is a toxic fuel additive which is emitted into the air from vehicle exhaust. It can damage paint and pit metal and can cause subtle neurological damage and behavior abnormalities, especially in children. Excessive lead concentrations also can affect sterility and alter chromosome structures.

Sulfur Dioxide and Sulfates

Sulfur dioxide and sulfates are derived from burning of fuel containing sulfur. Sulfates are formed through a photochemical reaction of sulfur dioxide and oxidant. Sulfate, in the form of an aerosol, is small enough to bypass the natural filtering system of the human body and settle deep in lung tissue. It can also cause plant damage, similar to that created by oxidant.

Sulfate can increase the damage-causing potential of oxidant. The combined effects of sulfate and oxidant can be greater than concentrations of either pollutant alone. Also, both sulfur dioxide and sulfate can increase the potency of cancer-causing air pollutants.

Oxides of Nitrogen

Oxides of nitrogen are formed from the intense heat and pressure of combustion processes. Most are emitted as nitric oxide, which converts rapidly in the atmosphere to highly toxic nitrogen dioxide. Nitrogen dioxide restricts breathing and affects the respiratory system in a manner similar to that of oxidant.

Hydrocarbons

Hydrocarbons are emitted during combustion processes, including operation of automobile engines and industrial boilers. Also, evaporating petroleum products and cleaning solvents are sources of hydrocarbon emissions. As they are emitted into the air, most hydrocarbons are not toxic to man in commonly occurring concentrations. However, they produce toxic substances, such as oxidant, after undergoing photochemical reactions with other contaminants.

Particulates

Particulates come from incompletely burned material. Also, dusts and waste from grinding and sandblasting operations can form particulate pollutants. Some particulates are formed photochemically, from the reaction of sulfur dioxide and oxides of nitrogen in liquid droplets to form solid matter in the air. Dust from agricultural production, construction activity and naturally occurring dust storms are major sources of airborne particulates.

PM10 refers to small suspended particulate matter, 10 microns or less in diameter, which can enter the lungs. Nitrates and sulfates, as well as dust particles, are major components of PM10.

These small particles may carry carcinogens and other toxic compounds, which adhere to the particle surfaces and can enter the lungs.

CLIMATIC RELATIONSHIPS

The extent and severity of the air pollution problem in the South Coast Air Basin (SoCAB) is a function of the area's natural physical characteristics (weather and topography) as well as man-made influences (development patterns and lifestyle). Factors such as wind, sunlight, temperature, humidity, rainfall and topography all affect the accumulation and/or dispersion of pollutants throughout the basin.

Wind

One of the most important climatic factors is the direction and intensity of the prevailing winds. With very light average wind speeds (5 to 7 miles per hour), the basin has a limited capability to disperse air contaminants horizontally. Typically, the net transport of air on-shore is greater in the summer, while the net off-shore transport is greater in the winter (Figure 3). Whether there is air movement or stagnation during the morning and evening hours (before these dominant patterns take effect) is one of the critical factors in determining the smog situation on any given day.

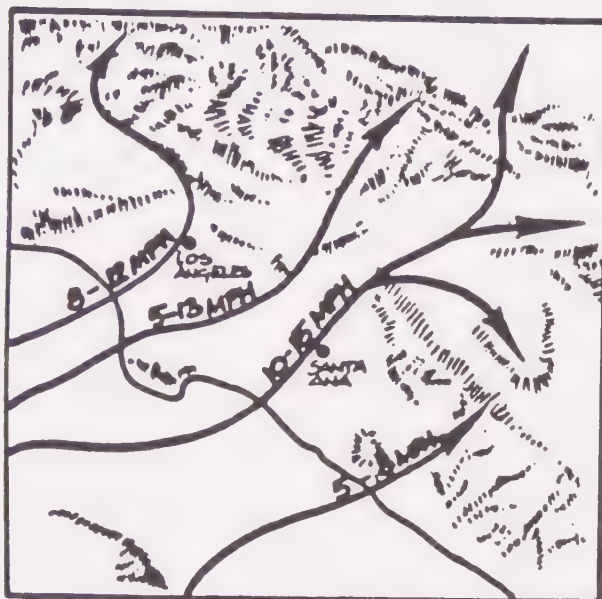
Costa Mesa's location with reference to these flow patterns and the Pacific Ocean results in relatively good air quality. For the most part, the on-shore winds transport pollutants farther inland, away from the City. Since the night drainage winds are less intense, only a limited amount of this pollution is returned during the summer. Because of the similar intensity of on- and off-shore winds in the winter, pollution levels are somewhat higher on winter nights. The highest pollution levels in Costa Mesa are often associated with these conditions and also Santa Ana wind conditions which reverse the dominant wind patterns.

Sunlight

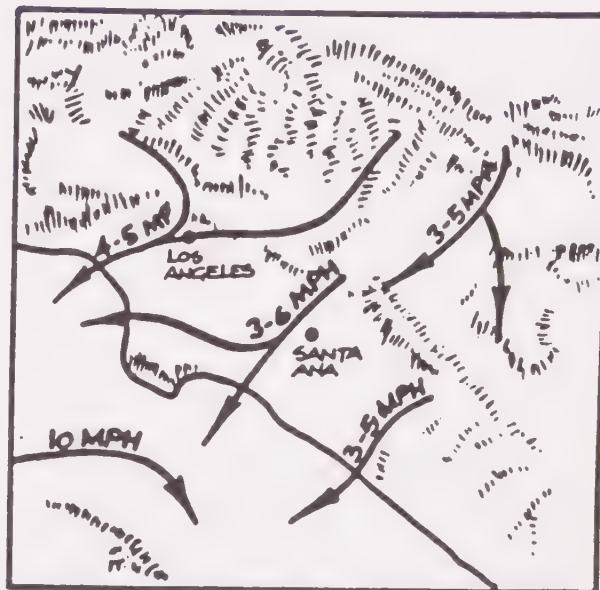
The presence and intensity of sunlight are necessary prerequisites for the formation of photochemical smog. Under the influence of the ultraviolet radiation of sunlight, certain original, or "primary" pollutants (mainly reactive hydrocarbons and oxides of nitrogen) react to form "secondary" pollutants (primarily oxidants). Since this process is time dependent, secondary pollutants can be formed many miles downwind from the emission sources.

Because of the prevailing daytime winds and time delayed nature of photochemical smog, oxidant concentrations are highest in inland areas. However, Costa Mesa and other coastal cities are not exempt on those few days with early morning easterly winds.

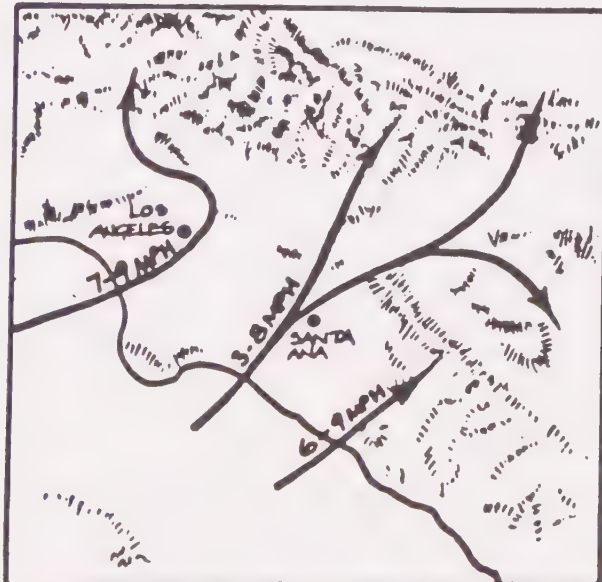
PREVAILING WINDS



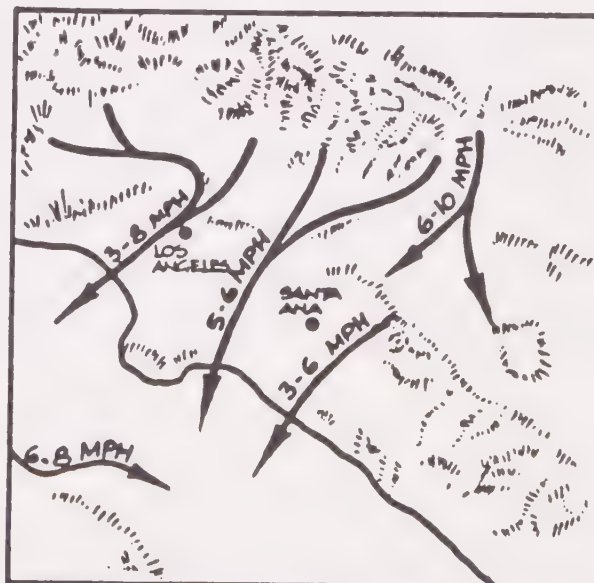
TYPICAL SUMMER DAYTIME OCEAN WINDS
Noon to 7:00 PM



TYPICAL SUMMER NIGHT DRAINAGE WINDS
Midnight to 5:00 AM



TYPICAL WINTER DAYTIME OCEAN WINDS
Noon to 5:00 PM



TYPICAL WINTER NIGHT DRAINAGE WINDS
Midnight to 7:00 AM

FIGURE 3



Temperature Inversions

A temperature inversion is a reversal in the normal decrease of temperature as altitude increases. In most parts of the country, air near ground level is warmer than the air above it. However, Southern California's daily summertime sunshine and high barometric pressure reverse that pattern, creating warmer air at high elevations which trap pollutants by preventing cooler air from rising to the upper atmosphere. The height of the base of the inversion is known as the "mixing height" and controls the volume of air available for the mixing and dispersion of air pollutants.

Rainfall

Winter storms which bring rainfall influence air quality since they tend to "scrub" gaseous or particulate pollutants from the air. These pollutants, combined with those which have settled onto buildings, streets or the land, are washed into surface waterways during storms and contribute to pollutant inputs into the marine environment. This is particularly important in the case of lead, pesticides and other aerially dispersed pollutants.

The interrelationship of air pollutants and climatic factors are most critical on days of greatly reduced atmospheric ventilation. On days such as these, air pollutants accumulate because of the simultaneous occurrence of three unfavorable factors - low inversions, low maximum mixing heights and low wind speeds. Although these conditions may occur throughout the year, the months of July, August and September generally account for more than forty percent of these occurrences.

The potential for high contaminant levels varies seasonally for many contaminants. During late spring, summer and early fall, light winds, low mixing heights and brilliant sunshine combine to produce conditions favorable for the maximum production of oxidants, mainly ozone. When fairly deep marine layers frequent the air basin (during spring and summer), sulfate concentrations achieve yearly peak concentrations. When strong surface inversions are formed on winter nights, especially during the hours before sunrise, coupled with near-calm winds, carbon monoxide from auto exhausts becomes highly concentrated. The highest yearly concentrations of carbon monoxide, oxides of nitrogen and nitrates are measured during November, December and January.

SCAQMD MONITORING

The most effective means to mitigate adverse impacts associated with high pollution levels and unfavorable climatic conditions are to limit the amount of pollution generated and activity during these conditions. Currently, the SCAQMD monitors both contaminant levels and meteorological factors on a daily basis in order to identify and forecast the simultaneous occurrence of these adverse conditions. Such emergency contaminant conditions are known as "episodes". Criteria for the determination of episodes are available for photochemical oxidants, carbon monoxide, sulfur dioxide, nitrogen dioxide, particulate matter and combinations of sulfur dioxide and particulate matter. For each of the contaminants there are three episode stages which are briefly described below:

Stage 1 Episode (Health Advisory)

A health advisory must be issued when the time-average concentration of any pollutant specified for this stage is either predicted or reached. Persons with respiratory or cardiac disease are notified through mass communications media to take precautions against exposure and exertion. Schools are notified through established channels so that they curtail students' participation in strenuous activities. Abatement actions for this stage are mainly voluntary except for the burning of combustible refuse, which is banned, and the implementation of first stage-episode plans by specified manufacturing plants, businesses and governmental agencies.

Stage 2 Episode (Warning)

A warning must be called when the concentration of any pollutant specified for this stage is predicted or reached. Since this is an intermediate stage, abatement action needed in this situation can range from voluntary to mandatory measures.

Stage 3 Episode (Emergency)

An emergency must be called when the conditions specified for this stage are predicted or reached. If SCAQMD efforts for abatement of the Stage 3 Episode are not adequate, the State will be called on to take action under the appropriate provisions of the State Peace-Time Emergency Plan developed pursuant to the Emergency Services Act.

AMBIENT AIR QUALITY

Costa Mesa is included within the SoCAB and, as such, is exposed to and responsible for a portion of the region's air pollution. Ozone, or photochemical smog, and nitrogen dioxide are more serious problems here than anywhere else in the country. Because of these facts, this section will evaluate and identify regional pollution levels and trends for a comparison to similar levels within Costa Mesa.

The SCAQMD maintains ambient air quality monitoring stations at numerous locations throughout the basin. The City is located within Source Receptor Area (SRA) 18. A monitoring station is also located in the City. The El Toro monitoring station data is referenced where there is insufficient or nonexistent data.

Ambient air quality data from these monitoring stations are given in terms of State and Federal standards which were adopted to protect public health with a margin of safety. These standards are designed to protect that segment of the population which is most susceptible to respiratory distress or infection such as asthmatics, the very young, the elderly, people weak with illness or disease, or persons engaged in heavy work or exercise (i.e., sensitive receptors). Healthy adults can tolerate periodic exposures to air pollutant levels well above these standards before adverse health effects are observed.

Two types of national standards have been established: (1) primary standards designed to safeguard the health of people considered to be sensitive receptors while outdoors, and (2) secondary standards designed to safeguard human welfare (by minimizing damage to plants, and the oxidation of rubber and paint, etc.). California has adopted health advisory levels called episode criteria for ozone, carbon monoxide, sulfur dioxide and ozone in combination with sulfates. Episode criteria represent short-term exposures at concentrations which actually threaten public health.

Air quality trends demonstrated at the Costa Mesa air quality monitoring station between 1988 and 1990 are as follows (see Table 2). The ambient air quality data indicates that sulfur dioxide has not equalled or exceeded the relevant State and Federal standards. Lead has not exceeded the State standard statewide since 1982. Carbon monoxide, ozone, and nitrogen dioxide have exceeded the standards. Particulate matter with an aerodynamic diameter less than 10 microns (PM₁₀) was not monitored at the Costa Mesa station, however, it was monitored at the El Toro station.

Of all the pollutants monitored, ozone equalled or exceeded the State and Federal standards most often. Ozone equalled or exceeded the State 1-hour ozone standard (0.10 ppm) 2% of the time and the Federal 1-hour standard (0.12 ppm) 0.36% of the time. First stage ozone episodes (1-hour average >.20 ppm), second stage ozone episodes (1-hour average >.35 ppm) and third stage (1-hour average >.50 ppm) episodes were not declared during this three year period.

Figure 4 depicts the maximum hourly ozone concentrations during the past ten years. As shown, ozone levels have exceeded the State and Federal 1-hour standards at several Orange County stations. However, the maximum ozone concentrations are generally decreasing. The Costa Mesa station consistently monitors the lowest ozone concentrations.

As shown in Figure 5, the number of first stage ozone episodes is generally decreasing. The highest annual number of first stage ozone episodes occurred in the inland areas of Orange County (La Habra and Anaheim stations).

Carbon monoxide exceeded the State and Federal 8-hour standard less than one-half of one percent of the time between 1988 and 1990. The 1-hour State and Federal standards were not exceeded at the Costa Mesa station during this period. The maximum carbon monoxide concentration measured at this station was 16 ppm in 1988 and 1989.

The State 1-hour nitrogen dioxide standard (25 ppm) was exceeded one day during 1988 through 1990. The maximum concentration of nitrogen dioxide (26 ppm) was measured during 1988. The State 24-hour sulfate standard (25 ug/m³) was not exceeded. The maximum sulfate concentration measured was 21.1 ug/m³ during 1989, at the El Toro station.

Suspended particulates with an aerodynamic diameter of less than 10 microns (PM₁₀) are not currently monitored at the Costa Mesa station. PM₁₀ from the El Toro station indicates that the Federal standard was not exceeded over the three-year period. However, the

State 24-hour standard (50 ug/m^3) was exceeded 30% of the observations monitored.

State and Federal standards for sulfur dioxide were not violated between 1988 and 1990 at the El Toro station. The maximum one hour concentration monitored for sulfur dioxide was 0.03 ppm during 1989.

Table 1 identifies the ambient air quality standards for each pollutant and Table 2 identifies maximum contaminant reading and number of days exceeding Federal and State standards for the South Coast Air Basin and Costa Mesa for 1987 through 1990. A comparison of the years indicates a decrease in Costa Mesa of the number of days exceeding State and Federal standards for ozone and carbon monoxide. State and Federal standards has not been exceeded since 1983 for nitrogen dioxide and sulfur dioxide.

A review of the information presented in these tables and figures indicate that although Costa Mesa's air quality is relatively good (when compared to other areas in the SoCAB), there are instances when either Federal or State standards are exceeded.

AIR POLLUTION EFFECTS

The effects of air pollution are felt in varying degrees throughout the air basin. Although the primary concern is related to public health impacts, air pollution can affect vegetation and damage materials.

Public Health

The health effects of pollution have been studied in great detail throughout the nation. Generalized results of these major studies are discussed in the following paragraphs.

Studies conducted by the Air Resources Board show that exposures to concentrations of 0.3 ppm or more of ozone for two or more hours (a condition which occasionally occurs in the SoCAB) with intermittent light exercise can have significant deleterious health effects. Some persons exposed to these conditions not only developed measurable physiological and biochemical changes but felt physically ill and were unable to perform their normal jobs during exposure and for several hours thereafter. The most sensitive persons were generally those with a history of asthma, allergy or previous subjective adverse reactions to smog exposure. The least sensitive persons tested did not develop respiratory symptoms or physiological changes but did exhibit biochemical changes. It was also found that children, older adults, pulmonary disease patients or workers performing heavy exercise, experience breathing difficulty and physiological changes at concentrations near 0.12 ppm.

Concentrations of sulfates which exceed 9 to 10 micrograms per cubic meter (ug/m^3) can aggravate asthma, heart disease, lung disease and the pulmonary lung function of school children. Also, children exposed to high levels of sulfates and other particulates have increased rates of acute respiratory diseases such as croup, bronchitis and pneumonia.

Annual Maximum Ozone Concentration

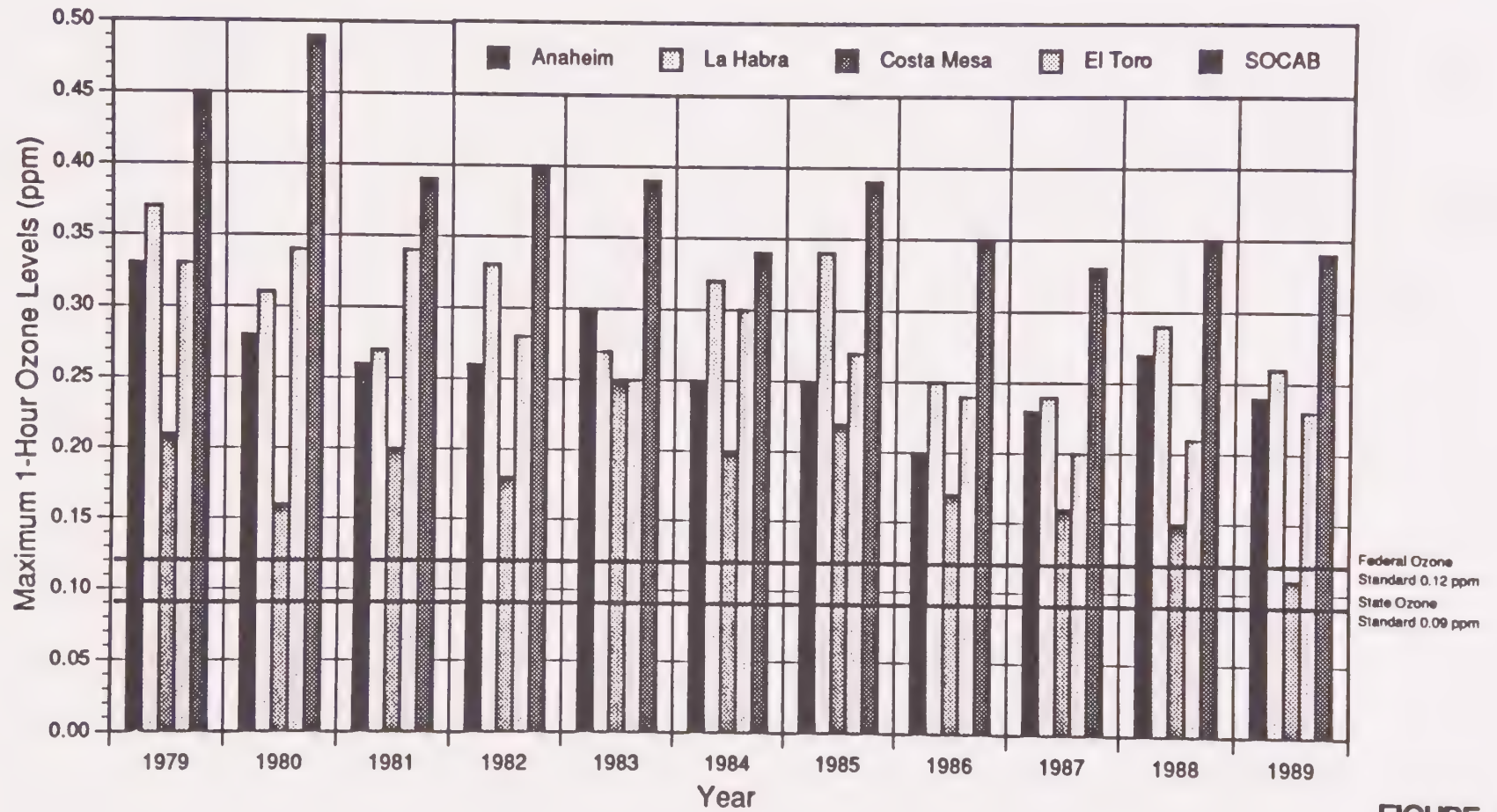


FIGURE 4

Annual Number of First Stage Ozone Episode Days (First Stage Ozone Episode is $\geq .20$ ppm)

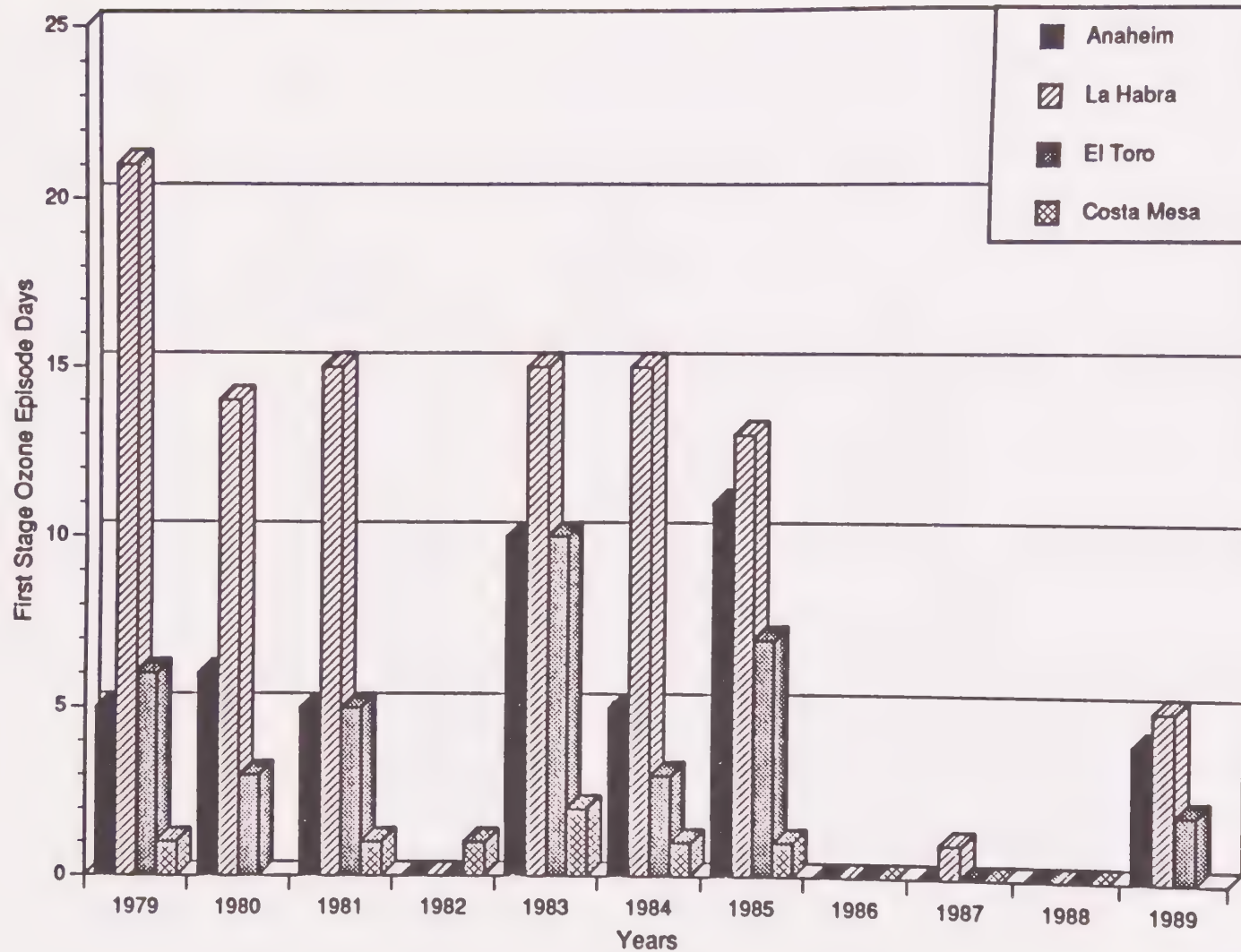
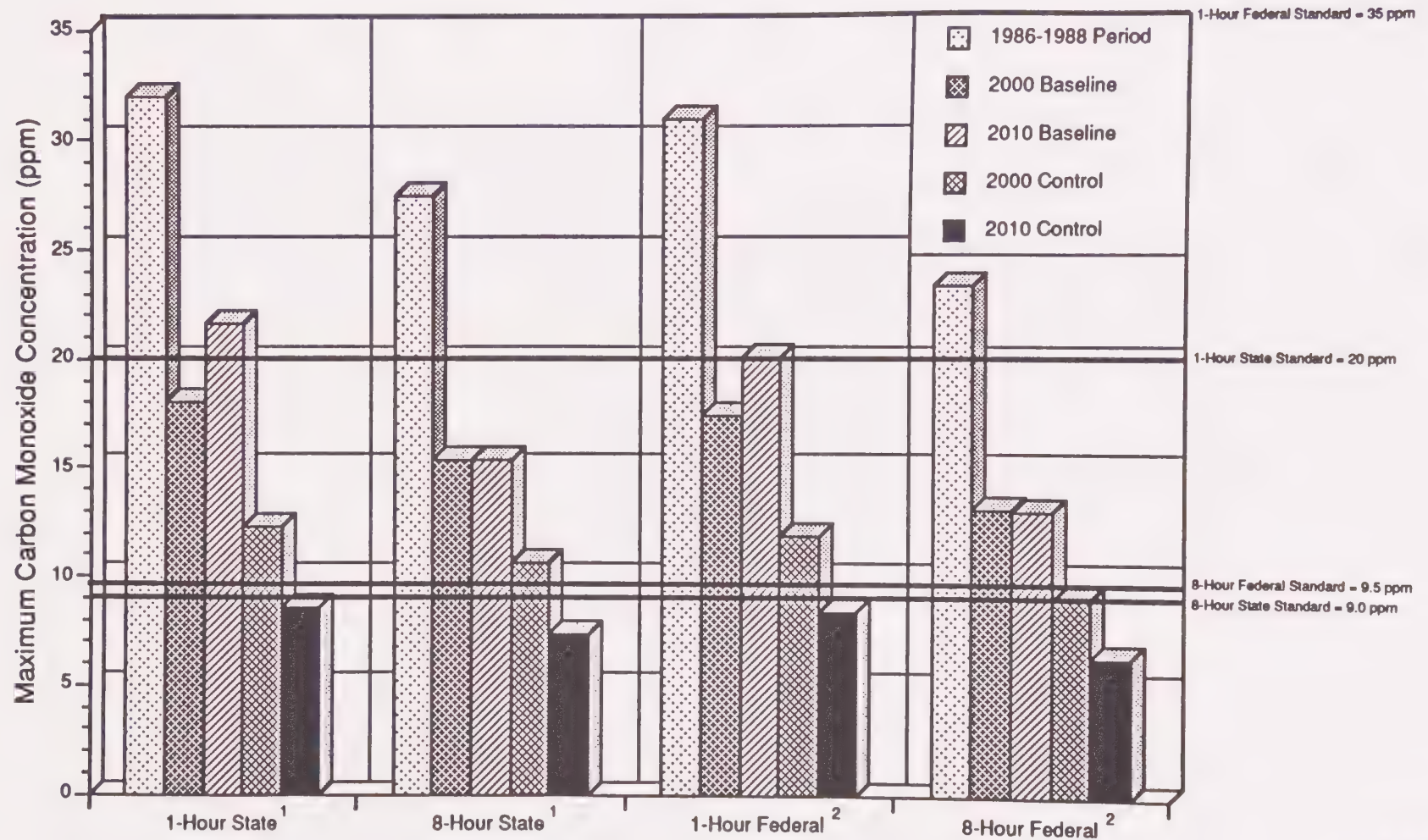


FIGURE 5

Source: Endo Engineering



Projected SOCAB CO Concentrations



Note: 1) State standards do not allow any exceedances.

2) Federal standards are allowed to be exceeded once per year and the second highest concentrations are presented.

FIGURE 6



Table 1
Ambient Air Quality Standards

Air Pollutant	California		Federal		
	Concentration	District Method	Primary (>)	Secondary (>)	Method ^{a)}
Ozone	0.09 ppm, 1-hr. avg. >=*	U.V. photometry	0.12 ppm, 1-hr. avg.	0.12 ppm, 1-hr. avg.	Chemiluminescence
Carbon Monoxide	9.0 ppm, 8-hr. avg. > ^{b)} 20 ppm, 1-hr. avg. >	Non-dispersive Infra-red Spectrophotometry	9 ppm, 8-hr. avg. ^{e)} 35 ppm, 1-hr. avg.	9 ppm, 8-hr. avg. 35 ppm, 1-hr. avg.	Non-dispersive Infra-red Spectrophotometry
Nitrogen Dioxide	0.25 ppm, 1-hr. avg. > ^{g)}	Gas Phase Chemiluminescence	0.053 ppm, ann. avg. ^{h)}	0.053 ppm, ann. avg. ^{h)}	Gas Phase Chemiluminescence
Sulfur Dioxide	0.05 ppm, 24-hr. avg. >= with ozone >= 0.10 ppm, 1-hr. avg. or TSP >= 100 ug/m ³ 24-hr. avg. 0.25 ppm, 1-hr. avg. >	Ultraviolet Fluorescence	0.03 ppm, ann. avg. 0.14 ppm, 24-hr. avg.	0.50 ppm, 3-hr. avg.	Para-rosaniline
Suspended Particulate Matter (PM10)	30 ug/m ³ , ann. geometric mean > 50 ug/m ³ , 24-hr. avg. > ^{d)} **	Size Segregated Inlet High Volume Sampling	50 ug/m ³ , annual ^{h)} arithmetic mean 150 ug/m ³ , 24-hr. avg.	50 ug/m ³ , annual ^{h)} arithmetic mean 150 ug/m ³ , 24-hr. avg.	
Sulfates	25 ug/m ³ , 24-hr. avg. >=	High Vol. Sampling Methylthymol Blue			
Lead	1.5 ug/m ³ , 30-day avg. >=	High Vol. Sampling Methylthymol Blue	1.5 ug/m ³ , calendar quarter	1.5 ug/m ³ , calendar quarter	High Volume Sampling Atomic Absorption
Hydrogen Sulfide	0.03 ppm, 1-hr. avg. >=	Cadmium Hydroxide Stractan			
Vinyl Chloride	0.010 ppm, 24-hr. avg. >=	Gas Chromatography			
Visibility Reducing Particles	In sufficient amount to reduce the prevailing visibility to less than 10 miles at relative humidity less than 70%, 1 obs.				

a) Reference method as described by the federal government. An equivalent method of measurement may be used as approved by the federal government.

b) Effective December 15, 1982. The standards were previously 10 ppm, (12-hour average) and 40 ppm, (1-hour average).

c) Effective October 5, 1984. The standard was previously .5 ppm, (1-hour average).

d) Effective August 19, 1983. The standards were previously 60 ug/m³ TSP, (annual geometric mean), and 100 ug/m³ TSP, (24-hour average).

e) Effective September 13, 1985, standard changed from > 10 ug/m³ (>= 9.3 ppm) to > 9 ppm (>= 9.5 ppm).

f) Effective July 1, 1985, standard changed from > 100 ug/m³ (> .0532 ppm) to > .053 ppm (> .0534 ppm).

g) Effective March 9, 1987, standard changed from >= .25 ppm to > .25 ppm.

h) Effective July 1, 1987. The standards were previously: Primary - Annual geometric mean TSP > 75 ug/m³, and 24-hour average TSP > 260 ug/m³. Secondary - Annual geometric mean TSP > 60 ug/m³, and 24-hour average TSP > 150 ug/m³.

* ppm = parts per million per volume

** ug/m³ = micrograms per cubic meter.

Source: California Air Resources Board, Revised 1987

Table 2
South Coast Air Quality Management District Air Quality Data¹

Air Pollutant/Standard	Costa Mesa Station			South Coast Air Basin Summary ²		
	1988	1989	1990	1987	1988	1989
Carbon Monoxide						
1-hour max (ppm)	16	16	13	26	17	31
8-hour max (ppm)	11.6	9.7	10.7	19.6	27.5	21.8
Number of Days Exceeding						
- 8-hour State Standard (9.0 ppm)	3	1	0	47	65	66
- 1-hour State Standard (20.0 ppm)	0	0	0	10	0	19
- 8-hour Federal Standard (9.0 ppm)	3	1	0	40	65	66
- 1-hour Federal Standard (35.0 ppm)	0	0	0	0	0	0
Oxidant (Ozone)						
1-hour max (ppm)	0.15	0.11	0.15	0.33	0.35	0.25
Number of Days Exceeding						
- 1-hour State Standard (.09 ppm)	15	2	12	180	216	158
- 1-hour Federal Standard (0.12 ppm)	2	0	3	135	178	157
Nitrogen Dioxide						
1-hour max (ppm)	0.26	0.22	0.22	0.42	0.54	0.34
Number of Days Exceeding						
- 1-hour State Standard (0.25 ppm)	1	0	0	4	11	8
Sulfur Dioxide						
1-hour max (ppm)	0.03	0.03	0.02	0.09	0.15	0.11
Number of Days Exceeding						
- 24-hour State Standard (0.05 ppm)	0	0	0	0	0	0
- 1-hour State Standard (0.25 ppm)	0	0	0	0	0	0
- 24-hour Federal Standard (0.14 ppm)	0	0	0	0	0	0
Sulfate (El Toro Station Only)						
24-hour max (ug/m ³)	21.1	16.5	13.4	20.6	28.1	32.0
Number of Samples Exceeding						
- 24-hour State Standard (25 ug/m ³)	0	0	0	0	2	1
PM10 (El Toro Station Only)						
24-hour max (ug/m ³)	97	88	88	219	118	271
Number of Samples Exceeding						
- 24-hour State Standard (50 ug/m ³)	11/41	20/60	16/55	58/74	31/72	67/80
- 24-hour Federal Standard (150 ug/m ³)	0/41	0/60	0/55	9/74	0/72	8/80

1. NA = Not Available 2. Although individual station data for 1990 is available, basinwide 1990 data is not available.

Carbon monoxide has been demonstrated in numerous studies to be harmful to a wide range of people because of its ability to displace oxygen in the blood stream. This can reduce the ability of a totally healthy person to perform physical activity and can be critical for cardiovascular patients, increasing the risk of chest pains (angina) and heart attack. As such, heavy atmospheric pollution is most harmful for persons who have lung disease, cerebrovascular disease and anemia. High concentrations can impair central nervous system functions and cause dizziness and fatigue.

Hydrocarbons are controlled because their subsequent reactions with sunlight and oxides of nitrogen create photochemical oxidants which cause respiratory irritation, eye irritation and inflammation. Certain hydrocarbons are known to cause cancer in humans. Oxides of nitrogen cause lung tissue damage accelerating the aging of lungs and lowering resistance to respiratory infections. Nitrogen dioxide may also reduce lung function.

Plant Damage

Air pollution can cause, or contribute to, the deterioration of internal cells and the discoloration of leaves in a wide variety of vegetation. Leafy vegetable, cotton and alfalfa are the most susceptible. The pollution levels are such that spinach, once a major field crop, cannot be grown in measurable quantities throughout the SoCAB.

Air pollution also damages ornamental plants. However, the aesthetic and economic costs of such damage have not been studied.

Material Damage

Prolonged exposure to sulfurous smog has caused serious damage to building marble, limestone and mortar. In sufficient concentrations these pollutants can also discolor paint, corrode metals and cause organic fibers, nylon hose and leather to weaken.

Cost of Pollution

One measure of the effects on pollution is to review the above referenced impacts in terms of economic costs. These costs can include increased medical expenditures to treat pollution-related illness; decreased production levels because of increased sick leave or emergency episode curtailment; decreased field crop production; and increased expenditures to clean, repair or replace pollution-damaged material or equipment. Although only a limited number of studies have attempted to quantify the physical damage of air pollution into dollar values, certain generalizations and cost estimates can be drawn to provide a perspective of the scope of the problem in the SoCAB. The 1989 Air Quality Management Plan (AQMP) for the basin estimates the costs of pollution related damages to be 26 million dollars per year. This relates to a daily cost of \$2.00 per capita during 1987.

AIR QUALITY MANAGEMENT PLAN

The Federal Clean Air Act required the South Coast Air Basin (SoCAB) to attain all Federal ambient air quality standards by December 31, 1987. The SoCAB is a nonattainment area for carbon monoxide, nitrogen dioxide, ozone, and PM₁₀. The California Clean Air Act (CCAA) requires the attainment of both the Federal and State ambient air quality standards (AAQS) "as soon as practicable." The Air Quality Management Plan (AQMP) is the South Coast Air Basin's 20-year action plan to attain the Federal AAQS and since adoption of the CCAA, it is also the plan to meet the State AAQS. The AQMP contains commitments to adopt rules and regulations or control measures to reduce emissions.

It is the responsibility of the South Coast Air Quality Management District (SCAQMD) to lead the regional effort in the SoCAB to attain the State and Federal AAQS. The SCAQMD is charged with the overall development and implementation of the AQMP, and reducing emissions from industries and some mobile sources and consumer products. The Southern California Association of Governments (SCAG) is responsible for the AQMP's land use and transportation control measures as well as determining the conformity of regionally significant projects.

The AQMP for the SoCAB was originally adopted in 1979. Subsequent revisions, as required by both Clean Air Acts, have occurred since then. The most recent revision is the 1991 AQMP. The target date for attainment of Federal AAQS has been revised to the year 2000 for CO and NO₂, the year 2006 for PM₁₀, and the year 2010 for ozone. The State NO_x standard will be achieved by the year 2000 and for CO, the year 2005. Attainment of SO_x and sulfate standards as well as NO_x and CO standards will be achieved through a three-tier control approach. Even with full implementation of the 1991 AQMP, State PM₁₀ and ozone standards will not be attained. Future revisions of the AQMP will include additional control measures to bring the SoCAB into compliance with the State PM₁₀ and ozone standards.

The AQMP identifies the necessary stationary and mobile source control measures to be implemented to ensure emission reductions, agency responsibility for the control measures, and the cost effectiveness of each. Control methods are categorized into three tiers, depending upon their readiness for implementation. The three tiers are:

- Tier I - Full implementation of known technological applications and effective management practices. Adoption and implementation within the next few years.
- Tier II - Significant advancement of today's technological applications and regulatory intervention where needed. Adoption and implementation within the next ten to fifteen years.

Tier III - Development of new technology. Adoption and implementation within the next twenty years.

The AQMP also details future emission forecasts for the CCAA years 1994, 1997, 2000 and 2010. These forecasts were derived by: 1) using emissions from the base year 1987; 2) implementing emission reductions from SCAQMD and CARB rules adopted prior to June 30, 1990; and 3) applying source category growth factors for the future years. The growth factors were determined by SCAG for population, housing, employment, and motor vehicle activity within the SoCAB. By showing consistency with the SCAG Regional Mobility Plan and Growth Management Plan, complying with all SCAQMD and CARB rules, and adopting all available and applicable control measures (Tier I), a project can demonstrate consistency with the 1991 AQMP.

The revised AQMP identifies control measures to attain State and Federal standards at the earliest practical date. These control measures will reduce pollutant emissions by:

- Maximizing reductions in the use of pollutant-emitting materials;
- Maximizing the substitution of nonpolluting or less-polluting materials;
- Maximizing the use of the most efficient pollution control devices;
- Maximizing compliance and maintenance programs for fugitive emissions;
- Maximizing the efficiency of the transportation infrastructure to provide less polluting forms of transportation;
- Maximizing the effectiveness of existing measures through improved administrative practices; and
- Maximizing strong public and private commitments for the required implementation actions.

Control measures for implementation by local governments are provided in the AQMP as Tier-I control measures. A listing of the control measures applicable to the City of Costa Mesa is included in the following section.

In addition, the County of Orange is coordinating a comprehensive AQMP Implementation Program. This effort includes an Executive Steering Committee, the Orange County Transportation Commission, Orange County Transit District, Orange County Sanitation District, Transportation Corridor Agencies, League of Cities and the SCAQMD. The City of Costa Mesa is also involved in this effort.

LOCAL AIR QUALITY CONDITIONS

As shown in Figure 4, between 1987 and 1989 the Costa Mesa monitoring station exceeded the Federal ozone standard for 0-2 days each year and the State ozone standard for 2-23 days each year. Ozone levels in Costa Mesa have significantly decreased in the last three years so that the Federal standard was not exceeded in 1989.

Due to Costa Mesa's location within the SoCAB, prevailing winds and lack of major local pollutant sources, the generator of high oxidant levels in the City is not well defined. Possible explanations for these levels are presented below:

1. Regionally generated oxidant being transported to Costa Mesa from the more populated and industrialized areas of Los Angeles and portions of Orange County.
2. Nitrogen oxide and hydrocarbon emissions being generated by the Huntington Beach Power Plant, under stable atmospheric conditions allowing the formation of oxidant to occur.
3. Pollutants generated during the day from the western portions of the South Coast Air Basin undergo photochemical reactions to form oxidant and are then carried towards the ocean by the prevailing nighttime winds. The following morning, the oxidant is then carried inland toward Costa Mesa by the strong prevailing ocean breezes.

Carbon monoxide is the pollutant of primary concern along roadways. High concentrations generated by freeway traffic and high ambient concentrations due to worst case meteorological conditions can be expected to result in occasional violations of Federal and State standards. However, additional pollution control measures such as the State inspection and maintenance program, and the phasing out of older cars will continue to result in lower CO concentrations even if substantial increases in traffic volumes also occur. Carbon monoxide has exceeded the State and Federal standards 0-3 days per year between 1987 and 1989, with maximum levels averaging 16 ppm (1 hour) at the Costa Mesa monitoring station.

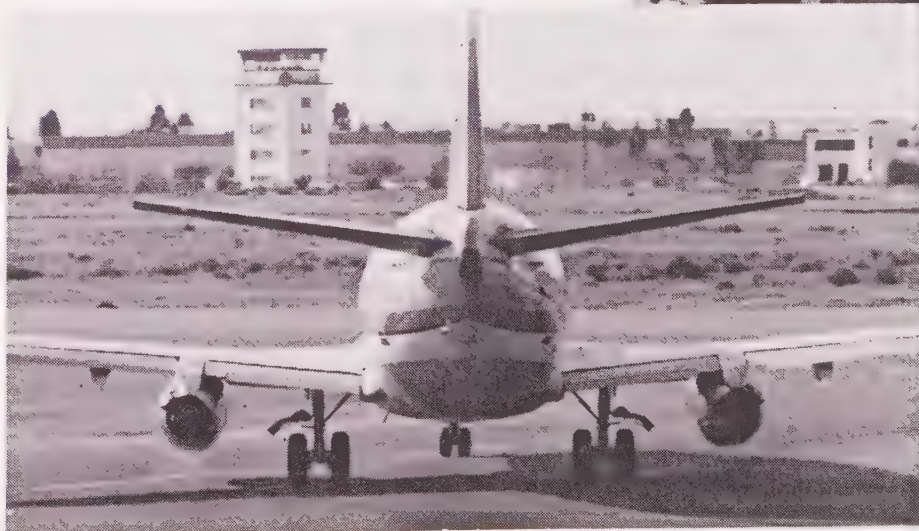
It should be noted that those areas subjected to high concentrations of carbon monoxide are extremely localized (in terms of area affected and time of exposure). Typically, the most serious air pollution episodes occur in the late night or early morning hours when the winds have shifted and are blowing back towards the ocean through the City. In these cases, high pollution levels can be expected to be evenly distributed throughout the City, with slightly higher concentrations immediately adjacent to major traffic arterials.

AIR QUALITY UPON GENERAL PLAN BUILDOUT

Implementation of the General Plan will result in an increase in the air pollutant emissions citywide. Table 3 indicates by type of pollutant the anticipated increases from 1988 to General Plan buildout of the City's total emissions inventory. Table 4 indicates what percent the City's total emission inventory represents of the regionwide emission inventory in the year 2010.



Vehicular traffic on the San Diego Freeway and aircraft at the Orange County Airport are sources of mobile emissions, while outdoor industrial activities, especially boat building and refinishing, are sources of stationary emissions which impact Costa Mesa.



As shown in Table 3, that despite an increase in growth, the City at buildout will generate fewer tons per day of carbon monoxide, reactive organic and nitrogen oxide gases. This decrease is attributed to the difference in factors used in the air quality analysis. The factors used for post 2010 conditions assumes a greater number of motor vehicles in use which will be equipped with emission control systems. Increases in the amount of particulates and sulfur oxides are anticipated.

Table 4 indicates that the City's emission inventory represents less than 2% of the regional inventory in the year 2010.

TABLE 3: TOTAL EMISSION INVENTORY COMPARISON
(Tons/Day)

<u>Primary Pollutant</u>	<u>Costa Mesa 1988</u>	<u>Costa Mesa Post 2010</u>	<u>Change</u>
Carbon Monoxide	86.12	52.68	-33.44
Reactive Organic Gases	9.87	5.24	- 4.63
Nitrogen Oxides	15.75	13.40	- 2.35
Sulfur Oxides	0.09	0.12	+ 0.03
Particulates	2.98	3.05	+ 0.07

TABLE 4: YEAR 2010 REGIONAL EMISSION INVENTORY COMPARISON
(Tons/Day)

<u>Primary Pollutant</u>	<u>Costa Mesa Post 2010</u>	<u>South Coast Air Basin 2010¹</u>	<u>City % of Region</u>
Carbon Monoxide	52.68	2,698	1.95%
Reactive Organic Gases	5.24	1,128	0.46%
Nitrogen Oxides	13.40	872	1.53%
Particulates	3.05	2,698	0.11%
Sulfur Oxides	0.12	116	0.10%

1. South Coast Air Quality Management District Air Quality Management Plan, 1991 Revision, December 1990.

AIR QUALITY MANAGEMENT PLAN AND LOCAL GOVERNMENT

Because local government provides the primary focus of land use and growth management decisions, no air quality management plan can succeed without the active participation of local government. Most of the measures relating to local government are in the areas of trip reduction, energy conservation, and dust control. Table 5 identifies the Tier I control measures that pertain to local governments, as noted in the 1991 AQMP. Tier I strategies include full implementation of known control technologies and management practices with full implementation by the year 2010.

Consistent with the need to reduce emissions from mobile sources, many of the control measures identified focus on alternatives to current transportation strategies. Ridesharing, carpooling,

flexible work schedules, parking management and the acquisition of clean-fueled fleet vehicles are a few of the transportation control measures to be considered for adoption by the City of Costa Mesa. Also included are measures which call upon local jurisdictions to develop more efficient management programs for solid waste including: (1) recycling programs; (2) energy conservation programs; and (3) programs to reduce fugitive dust emissions, among others. Nearly all of the measures call for the adoption of ordinances within the next five years to implement control programs.

TABLE 5

CONTROL MEASURES IMPLEMENTED BY LOCAL GOVERNMENTS¹

<u>Control Measure Number</u>	<u>Title</u>	<u>Activities</u>	<u>Proposed Adoption Date²</u>
SCAG TRANSPORTATION, LAND USE, AND ENERGY CONSERVATION MEASURES			
1.a.	Person Work Trip Reduction-local government employees (ROG, NOx, CO)	Ordinance Adoption	12/31/92
1.b.	Nonmotorized Transportation (ROG, NOx, CO)	Ordinance Adoption	12/31/92
2.a.	Employer Rideshare and Transit Incentives (ROG, NOx, CO)	Ordinance Adoption	12/31/92
2.b.	Parking Management (ROG, NOx, CO)	Ordinance Adoption	12/31/92
2.d.	Merchant Transportation Incentives (ROG, NOx, CO)	Ordinance Adoption	12/31/92
2.e.	Auto Use Restrictions (ROG, NOx, CO)	Ordinance Adoption	12/31/93
2.f.	HOV Facilities (ROG, NOx, CO)		TBD
2.g.	Transit Improvements (ROG, NOx, CO)		TBD
3.a.	Truck Dispatching, Rescheduling & Rerouting (ROG, NOx, CO)	Ordinance Adoption	12/31/92
4	Traffic Flow Improvements (ROG, NOx, CO)	Implement ATSAC	1989-93
5	Nonrecurrent Congestion (ROG, NOx, CO)		1990-1994
8	Airport Ground Access (ROG, NOx, CO)	Help Prepare Plan	1992
12.a.	Paved Roads (PM ₁₀)-Clean Streets Program	Ordinance Adoption	12/92
12.b.	Unpaved Roads and Parking Lots (PM ₁₀)	Ordinance Adoption	12/93
16	High Speed Rail (ROG, NOx)	Initiate Study	12/91
17	Growth Management (ROG, NOx, CO)	Ordinance Adoption	1/01/92
SCAQMD STATIONARY SOURCE CONTROL MEASURES-AREA SOURCES			
A-D-2	Control of Emissions from Swimming Pool Heating (NOx)	Local Building Code	1992

1. Source: 1991 AQMP, SCAQMD, July 1991.

2. Note: TBD is To Be Determined. ATSAC is Automated Traffic Surveillance and Control. N/A is No Applicable.

TABLE 5
(Continued)

CONTROL MEASURES IMPLEMENTED BY LOCAL GOVERNMENTS¹

<u>Control Measure Number</u>	<u>Title</u>	<u>Activities</u>	<u>Proposed Adoption Date²</u>
A-D-3	Control of Emissions from Residential & Commercial Water Heating (NOx)	Local Building Code	1992
A-E-3	Control of Dust Emissions-Agricultural Tilling (PM ₁₀)	Ordinance Adoption	1994
A-F-2	Control of Emissions from Construction & Demolition Activities & On-Site Vehicular Flow (PM ₁₀)	Ongoing Cooperation	1992
A-F-4	Low Emission Methods & Materials for Building Construction (ROG, PM ₁₀)	Ongoing Cooperation	1994
A-F-5	Control of Dust Emissions from Wind Erosion	Ongoing Cooperation	1992
SCAQMD MOBILE SOURCE CONTROL MEASURES			
M-G-6	Eliminate Excessive Car Dealership Cold Starts (ROG, NOx, CO)	Civil Enforcement	1994
M-G-7	Eliminate Excessive Curb Idling (ROG, CO)	Civil Enforcement	1994
M-G-9	Eliminate Emissions from Advertising Vehicles (All Pollutants)	Civil Enforcement	1994
M-H-1	Environmental Review Program (ROG, NOx, CO)	Monitoring	1991
M-H-2	Trip Reduction for Schools (ROG, CO, NOx)		1992
M-H-3	Supplemental Development Standards (All Pollutants)	Ordinance Adoption	1993
M-H-4	Special Activity Centers (ROG, NOx, CO)	Ordinance Adoption	1993
M-H-5	Enhanced Regulation XV (ROG, NOx, CO, PM ₁₀)	Monitoring	1992
M-H-6	Truck Programs (ROG, CO, NOx)	Administer Program	1992
M-H-7	Registration Program	Effectiveness Assessment	1991
M-I-7	Eliminate Leaf Blowers (All Pollutants)	Ordinance Adoption	1993

1. Source: 1991 AQMP, SCAQMD, July 1991.

2. Note: TBD is To Be Determined. ATSAC is Automated Traffic Surveillance and Control. N/A is No Applicable.

TABLE 5
(Continued)

CONTROL MEASURES IMPLEMENTED BY LOCAL GOVERNMENTS¹

<u>Control Measure Number</u>	<u>Title</u>	<u>Activities</u>	<u>Proposed Adoption Date²</u>
SCAG AND SCAQMD ENERGY CONSERVATION MEASURES			
E-D-1a	Residential Sector-Electricity Savings (NOx)	Ordinance Adoption	1994
E-D-1b	Residential Sector-Natural Gas Savings (All Pollutants)	Ordinance Adoption	1993
E-C-1a	Commercial Sector-Electricity Savings (NOx)	Ordinance Adoption	1993
E-C-1b	Commercial Sector-Natural Gas Savings (All Pollutants)	Ordinance Adoption	1994
E-C-2a	Industrial Sector-Electricity Savings (NOx)	Ordinance Adoption	1994
E-C-2b	Industrial Sector-Natural Gas Savings (All Pollutants)	Ordinance Adoption	1995
E-C-2c	Industrial Sector-Glass Recycling (NOx)	Ordinance Adoption	1991
E-C-2d	Industrial Sector-Paper Recycling (NOx)	Ordinance Adoption	1994
E-C-3	Local Government Conservation Programs (All Pollutants)	Ordinance Adoption	1995

1. Source: 1991 AQMP, SCAQMD, July 1991.

2. Note: TBD is To Be Determined. ATSAC is Automated Traffic Surveillance and Control. N/A is No Applicable.

GOALS, OBJECTIVES AND POLICIES

The goals, objectives, and policies of the Costa Mesa General Plan that address air quality are as follows:

GOAL II: ENVIRONMENTAL PROTECTION AND PRESERVATION

It is the goal of the City of Costa Mesa to protect its citizens and property from injury, damage, or destruction from environmental hazards, including hydrologic, geologic, and climatic episodes, and to work towards the improved noise abatement and improved air and water quality.

Objective II-B: Pursue the prevention of the significant deterioration of local and regional air and water quality.

80. Cooperate with and support regional, State, and Federal agencies to improve air quality throughout the South Coast Air Basin.
81. Participate in the environmental analysis review and adoption process of the Tier I Control Measures identified in the adopted South Coast Air Quality Management District's Air Quality Management Plan.
82. After analysis of each measure, implement, as appropriate or where required by law, the Tier I Control Measures in the Air Quality Management Plan as they are formally adopted by the South Coast Air Quality Management District.
83. Require, as a part of the environmental review procedure, an analysis of major development or redevelopment project impacts on local and regional air and water quality.
84. Establish land use policies (balanced uses, integration of compatible uses, and concentration of development along major arterials or in close proximity of major employment centers) which support ridesharing programs, reduce traffic congestion, and improve air quality.
87. Develop and implement a Reasonable Available Control Measure Plan (including employee ridesharing, traffic signal synchronization, bicycle/pedestrian facilities, energy conservation street lighting, modified work schedules, preferential carpool parking, or other equivalent control measures) in conformance with the Air Quality Management Plan for the South Coast Air Basin.

In addition, see the Transportation Subelement for goals, objectives, and policies that address improving the circulation system which in turn will have beneficial effects on air quality.

REFERENCES

1. Draft 1990, Air Quality Management Plan, South Coast Air Quality Management District & Southern California Association of Governments, December 1990.
2. Costa Mesa General Plan Update Air Quality and Noise Analyses. Endo Engineering, May 1991.
3. Personal conversation with Cher Snyder, SCAQMD Public Information Specialist, Intergovernmental Affairs Office.
4. Costa Mesa General Plan, 1981, City of Costa Mesa.
5. Environmental Management Resources Element, City of Costa Mesa, 1978.

Hydrology

HYDROLOGY

Large scale urban environments have been established in proximity to available sources of fresh water throughout history. The hydrologic characteristics of a region were the primary determinants for the type and intensity of development which could be supported in a given area. Although the original settlement of the Los Angeles basin followed this tradition, the subsequent development of Southern California has grown beyond the natural carrying capacity of the region's hydrologic resources.

HYDROLOGIC CYCLE

In a natural setting, water is transported in a variety of forms through a continuous cycle (Figure 7). The hydrologic cycle is one of many naturally occurring geochemical cycles which relies on solar radiation and gravity to convert and move water through the system. As a starting point, water is evaporated from large bodies of water, becomes a vapor which collects, precipitates and falls to the earth in the form of rain or snow. The falling water can form rivers and streams which run into the ocean; collect in ponds or lakes to be evaporated into the atmosphere; or percolate into the ground for storage. Groundwater eventually reappears as surface springs, returns to the ocean in underground "rivers" or enters the atmosphere through plant transpiration. It is this cycle which determines local climates and maintains the earth's heat balance through evaporation (23% of the solar energy reaching the earth is used to evaporate water), temperature changes, air currents and precipitation.

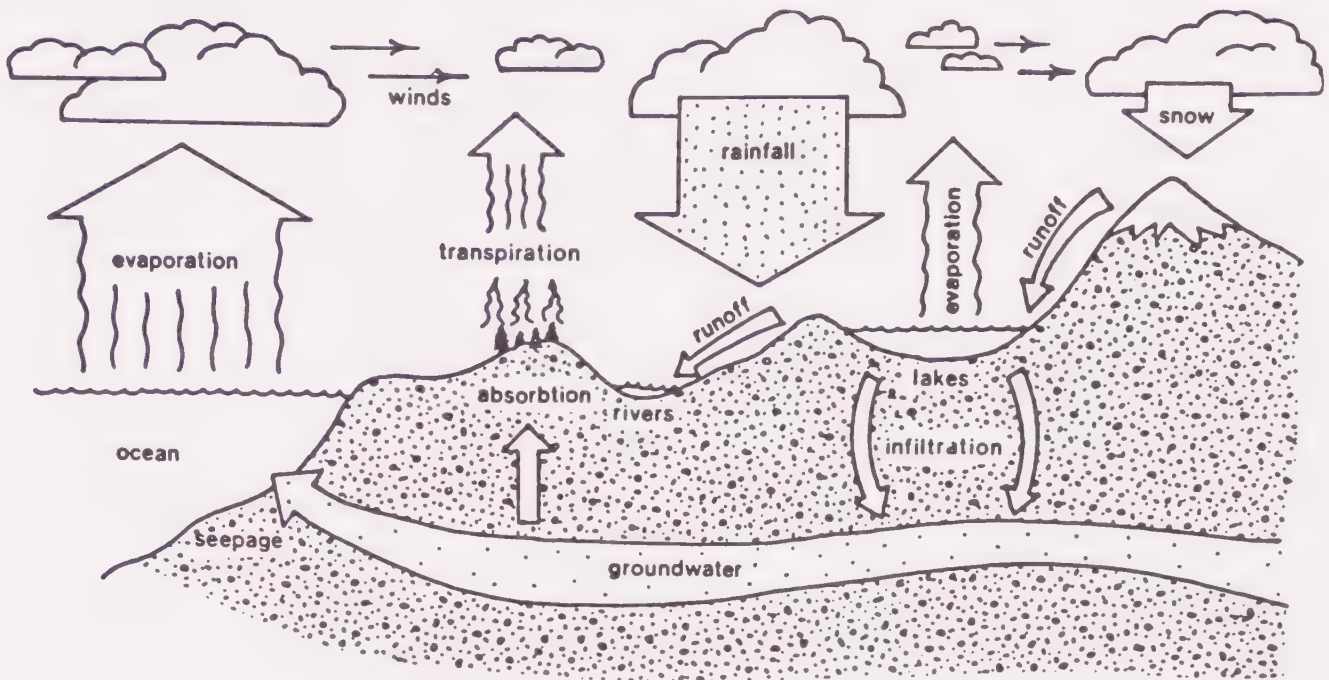
Human interaction often interrupts portions of the hydrologic cycle through the addition of smaller subcycles representative of man's use of water (Figure 7). The establishment of permanent settlements requires modifications to the natural process in the form of reservoirs, wells and aqueducts to store and distribute water; and sewers, storm drains and channels to dispose of unwanted water. Elaborate treatment facilities are also required to purify wastewater before it is returned to the natural system or reused by man. In extreme cases, such as the "Dust Bowl" in South Central United States in the 1930's, man's modifications have had disastrous consequences.

GROUNDWATER BASINS

The City of Costa Mesa is situated within the Orange County groundwater basin (Figure 8). The basin is situated within the Santa Ana Plain which is the southern half of the great eastern coastal plain of Southern California that extends 24 miles into Orange County from its northern periphery at the Santa Monica Mountains. This valley, with an average width of approximately 15 miles, is the upper surface of a great deposit of alluvial material which fills a deep depression extending from the foothills of the Santa Ana Mountains to near the coast.

HYDROLOGIC CYCLE

[NATURAL CONDITIONS]



HYDROLOGIC CYCLE

[HUMAN INTERACTION]

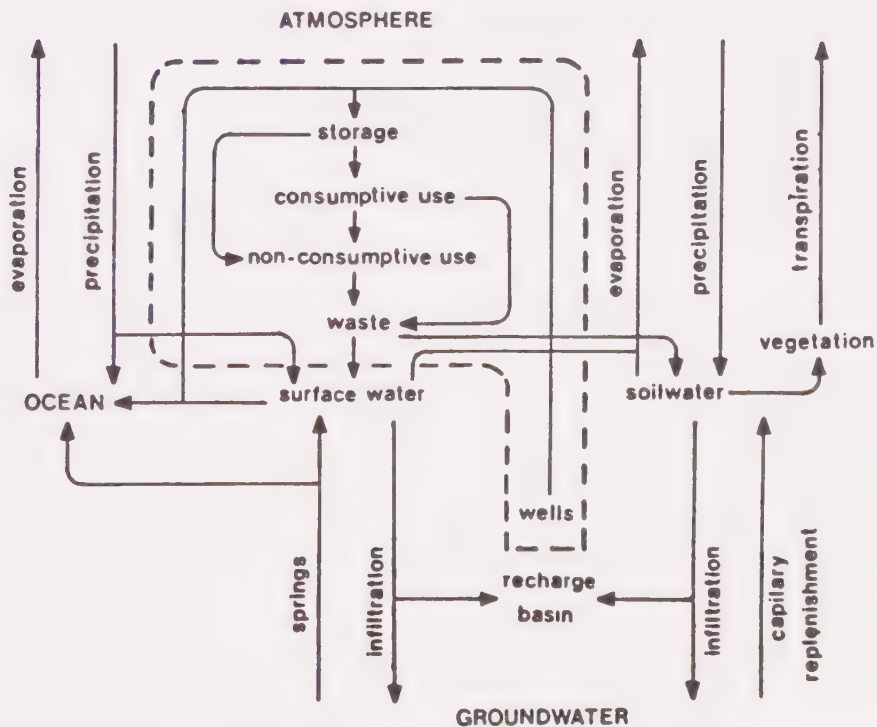


FIGURE 7



In the past, the Santa Ana River flowed at random across the Santa Ana Valley, depositing alluvial soils of suspended sand and silt. The river and its tributaries have their sources in the San Bernardino Mountains and drain 1,470 square miles in Orange, Riverside, and San Bernardino Counties. Historically, as the river coursed the Santa Ana Plain, the coarser gravels and sands were deposited first in the upper edges of the valley. The finer soils and clays remained suspended longer and were deposited further down the plain, interbedded with fine sand. These finer materials compacted to denser layers in the form of a clay cap, which restrained the flow of underground water through the subsoil. The clay cap lies approximately 20 to 30 feet below ground level to a thickness of about 30 to 60 feet and extends throughout the majority of the southern and western parts of the Santa Ana Plain. The flow of underground water in the aquifer system below this clay cap causes a pressure area. Historically, where this clay cap was broken, water seeped to the surface forming springs and swamps, subsequently drained for agricultural and urban use.

This large basin of saturated alluvium long supplied water to farmers and was sufficient to provide 10 million acre feet of water annually. However, demands by farmers and later by urban users and a great diminution of flow in the Santa Ana River by the appropriation of water by irrigators in San Bernardino, Riverside and Orange Counties decreased the source of this aquifer.

The Orange County Water District is responsible for the protection and management of the Lower Santa Ana Basin which is the only source of groundwater supply. This basin encompasses an area of about 316 square miles in central and western Orange County. The basin is bounded on the north by the Chino-Puente Hills, on the east by the Santa Ana Mountains, and on the south by the San Joaquin Hills and the Pacific Ocean. Approximately 1,550 wells are active in the basin: over 60 percent are used for municipal and industrial water supply and the remainder for irrigation. Under full storage, the basin is estimated to contain 15.8 million acre-feet of fresh water, with about 1.5 million acre-feet believed to be usable for water supply purposes within the capacity of withdrawal of installed wells.

During the five years from July 1, 1980 to July 1, 1985, an average of 32,300 acre-feet of Colorado River, State Project, and Water Factory 21 water was spread or injected annually into the underground basin for groundwater replenishment. During this same five year period the water levels in the intake area of the basin fell 8.5 feet and water levels in the pressure area fell 3.4 feet, resulting in a net decrease in basin storage of about 58,000 acre-feet, or an average decrease of about 11,700 acre-feet per year. The average annual overdraft on the District Basin during this period is estimated to be about 44,000 acre-feet per year.

Average seasonal rainfall in the Orange County Water District from July 1, 1980 to July 1, 1985, was 15.8 inches, or 118% of the working average of 13.4 inches.

GROUNDWATER BASINS

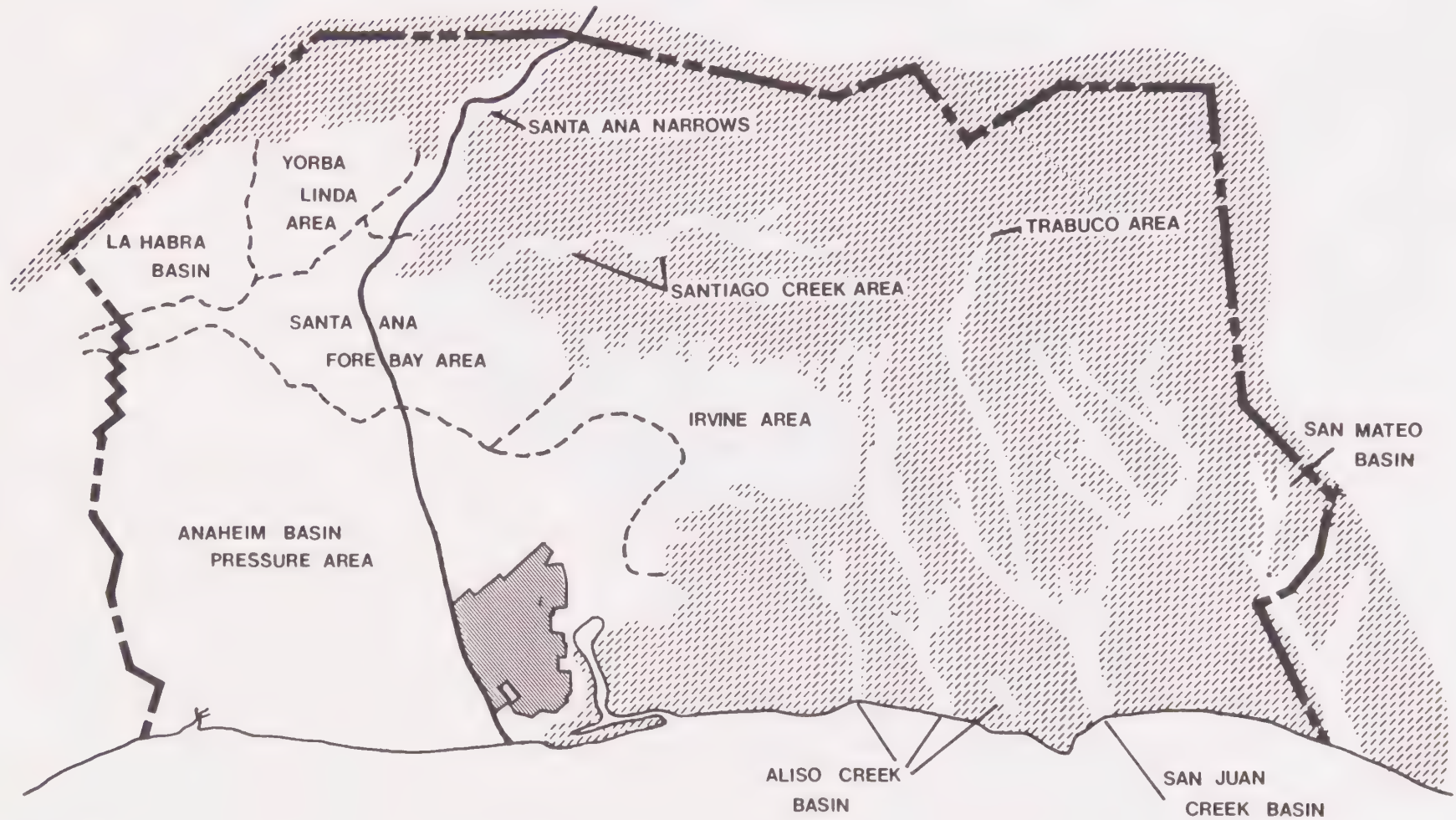


FIGURE 8



SOURCE: ORANGE COUNTY FLOOD CONTROL DISTRICT



GROUNDWATER CONTOURS

NOVEMBER 1986

WATER WELLS
(MCWD)

FIGURE 9



The Orange County Water District replenishes the groundwater basin and operates barrier wells to protect it from salt water intrusion.

Due to Costa Mesa's location in relationship to the Orange County groundwater basin, the value of undeveloped land as potential groundwater recharge basins is relatively low. Major recharge areas are the Santa Ana River, off-channel recharge facilities in northern Orange County, and the Prado Reservoir in Riverside County.

WATER SUPPLY

Costa Mesa is served by two water supply agencies: The Mesa Consolidated Water District (MCWD) and the Santa Ana Heights Water Company (Figure 10). A majority (85%) of the City is within the boundaries of the MCWD which also serves unincorporated areas of the County and portions of Newport Beach. Properties to the southeast of Newport Boulevard, between 23rd and Bristol Streets are served by the Santa Ana Heights Water Company. The MCWD is affiliated with both the Coastal Municipal Water District (Coastal) and the Municipal Water District of Orange County (MWDOC) while the Santa Ana Heights Water Company is affiliated with the MWDOC. In turn, Coastal and MWDOC are member agencies in the Metropolitan Water District of Southern California (MWD). MWD has the responsibility for acquiring, storing, and distributing supplemental (nonlocal or imported) water on a wholesale basis in the Southern California Coastal Plain.

Natural water supplies in Orange County are limited to three sources: (1) groundwater, (2) surface flows in the Santa Ana River originating in Riverside and San Bernardino Counties, and (3) local precipitation and runoff in Santiago Creek and other streams. Because the demand for water greatly exceeds the rate of replenishment of natural water sources, the majority of the urban and rural communities in Orange County are wholly or in part dependent upon water imported through the facilities of the MWD.

Groundwater

Extensive portions of Orange County are underlain by deep deposits of permeable, water-bearing sedimentary geologic strata. As noted previously, groundwater for Costa Mesa is withdrawn from the largest of four groundwater basins in Orange County - the Lower Santa Ana Groundwater Basin.

MCWD has six operating wells located in the northern portion of the City which extract water from the Lower Santa Ana Basin. These six operating wells have a total design capacity of 13,600 gallons per minute. MCWD's long-range plans show a total of ten wells.

In addition, MCWD is developing additional (previously untapped) groundwater supplies from deeper aquifers. Water from these levels has slight aesthetic color and odor problems but is chemically of very high quality. MCWD removes these aesthetically unpleasant but nontoxic characteristics by treating the water with an ozone gas purification process. This additional water source provides customers with water that is of higher quality and lower cost than water imported by MWD.

WATER SUPPLY AGENCY BOUNDARIES

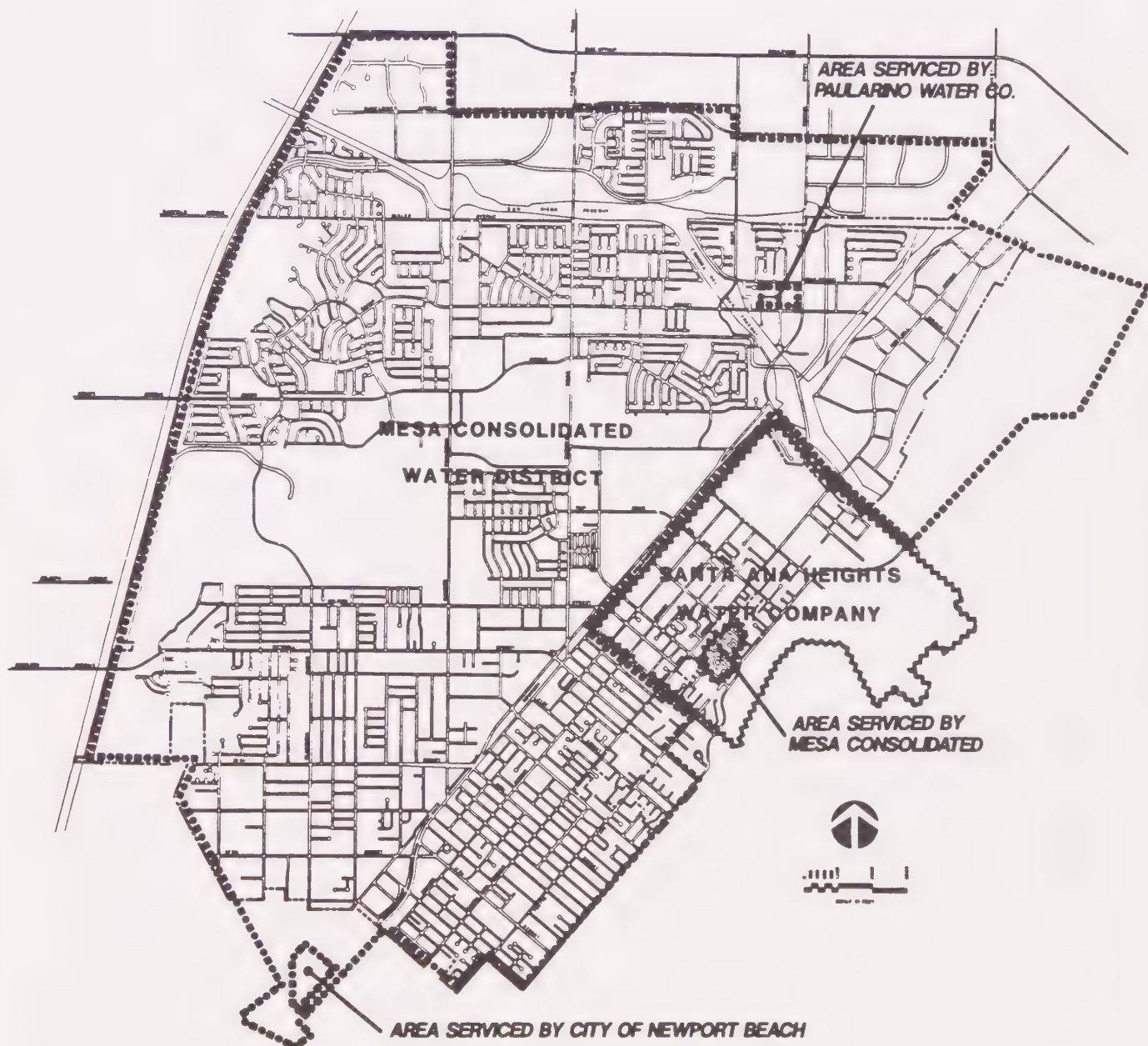


FIGURE 10



MCWD also has initiated a local water storage improvement program to increase groundwater usage. MCWD's Reservoir 1 has recently been completed and now provides 10 million gallons of emergency and balancing storage. Daytime water demand exceeds groundwater well pump capacity; however, well pump capacity exceeds nighttime demand, therefore, the reservoir allows 24-hour use of MCWD's wells to balance daily supply vs. demand differences. MCWD's 20 million gallon Reservoir 2 is now in the initial development stages.

Imported Water

Water is imported into Orange County via two extensive systems of aqueducts operated by the Metropolitan Water District. At present, the primary source of supply is the Colorado River Aqueduct system. This aqueduct transports water from Lake Havasu on the Colorado River to Lake Mathews, MWD storage reservoir in Riverside County. From this point, water is carried to East Orange County Feeder No. 2, the main distribution line serving the County.

The second source of supply of imported water is the State Water Project (SWP). This system brings water from the Upper Feather River in north-central California via the California Aqueduct to Lake Castaic north of Los Angeles. From Castaic, the Foothill Feeder transports water to the Weymouth Filtration facility in La Verne. From this point, the Yorba Linda Feeder carries water to the Diemer Filtration Plant for distribution in Orange County.

Currently, MCWD relies on both ground and imported water while the Santa Ana Heights Water Company provides imported water exclusively.

At present, approximately 30% of the MCWD's water supplies are imported; MCWD's 1990 Master Plan calls for capital improvements that will allow well water production to account for less than 10% of its water supply by 1993-1994, thus decreasing the dependence on lower quality, higher cost imported water.

Since Costa Mesa depends upon imported water for a portion of its water supply, the potential impacts of water supply and demand extend beyond the boundaries of the City and its two serving agencies. The availability of imported water is directly related to the water supply conditions in the source watersheds as well as demand for water throughout the State. Recurring dry years can affect Southern California's water allotment. All of Southern California is more reliant on water from the north since the MWD allotment of Colorado River water was reduced from 1.2 million to 0.55 million acre-feet per year at the completion of the Central Arizona project in 1985.

Other Water Supply Sources

In cooperation with the OCWD, MCWD has begun to promote the use of OCWD's "Green Acres" reclaimed wastewater use program. Green Acres program water is highly treated and purified reclaimed wastewater, pumped in a separate distribution pipeline system, for use by selected users for nonpotable (nondrinking) purposes, including production processes and the irrigation of greenbelts, golf courses, parks, and other similar facilities. Areas that are

within a five-mile radius of the OCWD "Water Factory 21" facility (near the Santa Ana River/San Diego 405 Freeway overpass, just outside of MCWD's borders) will have the opportunity to utilize this lower cost alternative water source in place of more scarce and more expensive groundwater and imported water.

WATER QUALITY/POLLUTION

Water quality and pollution are related topics because of the degree of water reused. Water consumed by Costa Mesa residents may have been used, discharged and treated by others located upstream. Each use, or reuse, of water causes some change in its quality.

Water Quality

The quality of water delivered to Costa Mesa is the result of blending water from three separate sources (groundwater, Colorado River and State Water Project) with varying degrees of contamination. Based on a comparison of a primary indicator of water quality, the concentration of total dissolved solids (TDS), it can be seen that groundwater produced by the Mesa Consolidated Water District is of relatively high quality. Total dissolved solid concentrations in extracted water within the Lower Santa Ana Basin ranges from 200 parts per million (ppm) to 980 ppm, while the TDS levels from MCWD wells range from 262 ppm to 462 ppm. The U.S. Public Health Service recommends a standard of 1,000 ppm Minimum Contaminant Level of TDS for drinking water.

With respect to imported water, Colorado River water is poor in TDS (750 to 800 ppm) and hardness quality (280 ppm), but excellent with respect to turbidity (2 ppm or less). In contrast, SWP water is relatively low in TDS (226 ppm) and hardness (97 ppm) but high in turbidity (3.6 ppm). The combined sources result in quality indicators of 447 ppm TDS and 239 ppm hardness of water supplied by MWD. In contrast, MCWD's well produces water that only has 166.8 ppm hardness of water.

A 1990 water quality report prepared by Mesa Consolidated Water District indicates that its drinking water is of a higher quality than required by State and Federal standards. California water quality standards are more restrictive than Federal standards. State drinking water standards are enforced by the California Department of Health Services. MCWD monitors on an ongoing basis its water supplies, and measures approximately 175 compounds.

Water Pollution

For planning and management purposes, water pollution is divided into two categories: point source and nonpoint source. Point source pollutants are discharged from a specific place (for example: a sewage treatment plant or industrial plant) and may be controlled or eliminated at their place of origin. Nonpoint sources are generally related to urban and agricultural runoff, salt water intrusion, mining or construction activities.

The following lists nine general categories of water pollution which, to varying degrees, impact Costa Mesa. Also noted are the possible effects of each pollutant type.

1. Oxygen-demanding wastes are the traditional organic wastes and ammonia contributed by domestic sewage, industrial sewage, and runoff. They are activated if enough oxygen is present in the receiving water. If too much of these wastes are present, dissolved oxygen levels are reduced and aquatic life is endangered. The amount of oxygen-demanding wastes in a waste stream is usually measured by biological oxygen demand (BOD).
2. Infectious agents include a variety of bacteria and viruses capable of causing disease in animals and man.
3. Nutrients include carbon, nitrogen, phosphorus, and potassium. Excess amounts of nitrogen or phosphorus can cause an undesirable growth of algae and lead to eutrophication of receiving waters. Eutrophication is a slow aging process by which a lake or body of water (such as Upper Newport Bay) evolves into a bog or marsh and may eventually disappear as a result of increased nutrients and plant accumulation. Eutrophication may be accelerated as a result of water pollution.

Also, high concentrations of a nitrate (one chemical form of nitrogen) in drinking water can cause health problems in infants.

4. Inorganic chemicals and minerals, such as salts, acids and solids, can affect aquatic life and lessens the desirability of the water for drinking, agricultural, or industrial use.
5. Heavy metals include lead, zinc, cadmium, mercury, and chromium. Even in very small concentrations, heavy metals are highly toxic to animals and man, and some tend to bioaccumulate in the food chain. Recent research has shown relatively high concentrations of heavy metals in urban runoff.
6. Synthetic organics are man-made substances such as DDT, pesticide residues, and industrial wastes such as polychlorinated biphenyl (PCB). Like heavy metals, synthetic organics are highly toxic in small concentrations and tend to bioaccumulate in food chains.
7. Sediment is composed of particles of soils and minerals washed from the land into receiving waters. Sediment concentrations in waste streams are indicated by measuring suspended solids (SS). Sediments reaching waterways reduce aquatic life populations by blanketing bottom habitats and require expensive dredging of channels and harbors. This also fills reservoirs, lessening their useful life.

8. Radioactivity causes health effects which are well known. Tiny amounts can be discharged in waterways from the use of radioactive materials in nuclear power plants, medical, industrial, and research processes.
9. Heat reduces the ability of water to absorb oxygen and can seriously affect the ecology of receiving waters if unchecked.

Water Quality Agencies

Primary water quality and pollution control responsibilities are held by various Federal, State and regional agencies. The Federal Environmental Protection Agency (EPA) develops national programs and regulations for water pollution control and water supply with full enforcement powers given to the State Water Resources Control Board. The State is divided into nine regions, each governed by a Regional Water Quality Control Board responsible for preparing and adopting regional water quality control plans, enforcing waste discharge requirements and performing other functions concerning water quality control. Actions of these Boards are subject to review by the State Department of Water Resources and Health. SCAG has been appointed by the EPA as the agency to coordinate water quality management planning in the South Coast area and is responsible for the development of a regional program for the control of nonpoint sources of water pollution (208 program). Additionally, Costa Mesa is a member of the Newport-Irvine Waste Management Planning Agency (NIWA), a joint powers authority established to conduct water quality studies in the Newport Bay Drainage Area. The City's participation in regional water quality planning efforts and support of other pollution control agencies should ensure the maintenance of acceptable levels of water quality in the future.

Recent Water Quality Legislation

On February 4, 1987, Congress passed the Water Quality Act of 1987, amending the 1972 Clean Water Act. Under this act the EPA is required to regulate storm water that discharges into waters of the United States. Municipalities, counties, and other government agencies which discharge storm water must apply for a Storm Water Discharge Permit under the NPDES Program.

The draft regulations issued in December 1988 by the EPA suggested that the permit program would require municipalities to, among other things, establish storm water management programs consisting of the following elements:

1. Water Quality Monitoring Program to characterize discharges and identify sources of pollutants.
2. Annual Facility Inspection Program to identify and eliminate illegal and illicit connections to industrial and sewage discharges to the drainage facility.

3. Land Use Best Management Practice (BMP) Program to reduce sources of nonpoint pollutants. This would include such measures as requiring erosion controls for new developments as opposed to water treatment works, a nonstructural rather than a structural approach to the problem.
4. Facility design criteria to reduce the transport of pollutants.
5. Hazardous Material Management Programs including household hazardous waste and waste oil management programs.
6. Water Pollution Enforcement Program with the intent to eliminate discharges of pollutants to storm drains.

The City of Costa Mesa applied (as a co-permittee) for the NPDES permit in cooperation with the County of Orange and the other Orange County cities. The County (EMA and Flood Control) is the lead agency for this program.

The NPDES Stormwater Permit was issued in July 1990. The permit requires the County and City to develop a storm water management program.

Responsibilities of the City of Costa Mesa as a co-permittee are as follows:

- a) Conducting storm drain system inspections;
- b) Conducting and coordinating with the County of Orange on any surveys and characterizations needed to identify the pollutant sources and drainage areas;
- c) Implementing management programs, monitoring programs, and implementation plans;
- d) Enacting legislation and ordinances as necessary to establish legal authority;
- e) Pursuing enforcement actions as necessary to ensure compliance with the stormwater management programs and the implementation plans; and
- f) Responding to emergency situations such as accidental spills, leaks, illegal discharges/illicit connections, etc., to prevent or reduce the discharge of pollutants to storm drain systems and water of the United States.

Implementation of this program in conformance with the NPDES permit will minimize surface water quality impacts.

Water Treatment

In November 1984, MWD (the agency which supplies Mesa Consolidated Water District and Santa Ana Heights Water Company with imported water) changed the way it disinfects water. Previously, the

treatment included the use of chlorine as a disinfectant. Currently, chloramine (a combination of chlorine and ammonia) is used.

The switch from chlorine to chloramine should significantly reduce the trihalomethane (THM) level in tap water throughout the southland. THM's are suspected carcinogens. Recent Federal and State drinking water standards prompted this change.

Chloramine in the water is toxic to patients receiving kidney dialysis treatment and live fish; therefore, it must be filtered out. Some industrial uses of water are also incompatible with chloramine treatment.

MCWD does not add chloramine to the water, but continues to treat the water with chlorine. Chlorine is also toxic to fish, and requires removal both for fish and dialysis patients. Removal of chloramine, however, is a more difficult procedure.

Due to MWD's operation problems, MCWD usually does not receive the distance the water travels after chloramine-treated water, and due to blending with MCWD's local well water, chloramine levels in MCWD's water are very low, or at times nonexistent. However, in order to be safe, MCWD advises its customers to assume that chloramine is present in the water at all times.

DRAINAGE PATTERNS AND FLOOD HAZARDS

The City of Costa Mesa is unique in its drainage pattern because of the slope and topography of the land. In two places in the City, water may actually drain in four different directions. The advantages of these conditions relate to the ability to install short storm drain systems due to the small drainage areas and means that uncontrolled runoff is not as hazardous because of the lower water concentrations. Generally speaking, Costa Mesa has sufficient natural slope to assist storm runoff.

Runoff that is generated outside of the City which is transported through or adjacent to the City creates a different type of drainage problem. Channels on the north, east and west sides of the City are primarily dominated by runoff that originates from neighboring jurisdictions but also are required to dispose of locally originated runoff. The greatest potential flood hazard to Costa Mesa is water generated outside of the City limits. Unfortunately, Costa Mesa has less control over this potential hazard than it does over local drainage problems.

The greatest potential flood hazard is the Santa Ana River, following by the Greenville-Banning Channel and the Santa Ana-Delhi Channel. Costa Mesa is located immediately adjacent to the Santa Ana River, the largest river system in Southern California. The basin area of this system encompasses a total of approximately 3,200 square miles, including portions of San Bernardino, Riverside and Orange Counties. This river is considered an antecedent stream, meaning it was established prior to the uplifting of the Santa Ana Mountains and was able to cut down as fast as the adjacent mountains were uplifted, creating the Santa Ana Canyon.

Structures or construction activities lying within the limits of the 100-year storm floodplain are faced with the risk of substantial damage in the event of a major regional flood. Flood flow stages can rise from a nearly dry streambed to extreme flood peaks in a matter of hours. Large floods have been known to occur even in periods of extreme drought. Current channel capacity for the Santa Ana River upstream of Costa Mesa is not sufficient to carry the 100-year nor the 500-year frequency floods. Under such flood conditions, excess flood flow is expected to breach the levee in the City of Santa Ana causing widespread flooding of both Santa Ana and Costa Mesa due to ponding of water directly upstream of the San Diego Freeway. Downstream of the freeway, flooding will occur in the lowland areas adjacent to the Santa Ana and Greenville-Banning Channels.

The U.S. Army Corps of Engineers has an approved plan to upgrade the Santa Ana River in order to provide urban flood protection. The plan includes the construction of the Lower Santa Ana River Channel to provide 190-year level flood protection. The Lower Santa Ana River Channel is a 31 mile channel from Prado Dam to the Pacific Ocean. The initial funding request has been approved in the Federal budget. The construction of the Santa Ana River Mainstem project has begun and will minimize flooding in Costa Mesa and other adjacent cities upon its completion.

Drainage Facilities/Flood Hazards

Existing and proposed local drainage facilities are designed to provide a measure of control for storm water generated within Costa Mesa for a ten-year storm. As such, the level of protection decreases as the recurrence interval increases since the facilities are not capable of 25-year or 100-year storm runoff. Although the proposed improvements to the City's drainage facilities will reduce the damage from these higher than design storms, it is impractical to design the local drainage system for greater than a ten-year storm. Because of this, minor flooding will occur when local flows exceed the system's capacity or if inlets plug with trash and debris.

Since large scale flooding occurs infrequently in the Santa Ana River Basin, many residents are not aware of the potential hazard which the river presents (see Figure 11). 1825 was the first year that major flooding in the County was recorded. In that year, the Santa Ana River changed its course and raged through Newport Bay carrying with it gravel and sand to form a sand spit at the mouth of the bay which eventually became what is now the Newport-Balboa Peninsula.

Again in 1862, the Santa Ana River became a catastrophic torrent destroying in its wake vineyards, orchards, and grainfields. Some areas as far as four miles from the river were covered by floodwaters four feet deep. In 1884, a flood forced the Santa Ana River, at its confluence with Santiago Creek, to cut its present channel to the sea. Other large floods along the river and the resulting damages (based on prevailing prices at the time of flooding) are as follows:

January 1916	\$ 7,600,000
February 1927	1,000,000
March 1938	21,900,000
January 1943	1,900,000

Damaging floods in Orange, San Bernardino and Riverside Counties occurred in January and February of 1969. Damages within each county resulting from these storms are noted below.

San Bernardino County	\$43,000,000
Orange County	22,000,000
Riverside County	<u>20,000,000</u>
TOTAL	<u>\$85,000,000</u>

Flooding occurred next in Orange County in December 1974, when the first winter storm hit. In March 1983, a record breaking winter storm struck Orange County. 1,100 homes were flooded and damages to public and private property exceeded \$160,000,000.

Based upon the intensity of development which now exists along the river, it is estimated that damages from a 100-year flood would amount to \$11 billion and would jeopardize 1.8 million people.

Within Costa Mesa, approximately 1,725 acres (17 percent of the total land area) are located in the flood hazard area (see Figure 13). Land north of the San Diego Freeway, between the river and Harbor Boulevard, can expect to be inundated by shallow flooding of a depth of three feet, while land between Harbor Boulevard and Bristol Street will be inundated by two feet of water. Parcels immediately south of the freeway will experience flooding of approximately one foot of depth. Those areas located adjacent to the river, south of the freeway, will be inundated with water ranging in depths from three to seven feet.

Approximately 6,564 persons reside in 2,664 residential units within the flood hazard area. An additional 100 other structures (either commercially or industrial occupied) are also in danger of flooding. Total assessed valuation of buildings located in the flood hazard area is over \$600,000,000 based on 1985-86 assessments.

The City presently requires that new development in the 100-year flood plain be floodproofed or elevated above the anticipated 100-year flood levels.

Drainage/Flood Hazard Management

Local drainage and runoff problems can be controlled through proper anticipation of potential flood problems, analysis of existing and future system deficiencies and construction of appropriate flood control facilities. The Master Drainage Plan (Figure 14), incorporating the above mentioned phases, was prepared for the City in December 1969, and is updated periodically. This plan deline-

ates numerous specific projects to improve Costa Mesa's storm drain system. Approximately 64% of the projects have been completed. Continued implementation of this plan and the construction of the remaining improvements should provide the City with appropriate control over local drainage concerns.

The mitigation of the larger scale flood potential of the Santa Ana River is most effective when the efforts are aimed at the improvement of the river and associated flood control facilities. As mentioned previously, the Army Corps of Engineers has prepared a plan with this objective.

The Water Resources Development Act, an omnibus Federal waterworks measure, approved in 1986, includes \$1.1 billion for the Santa Ana River Plan. Construction has begun and will take an estimated 15-18 years to complete.

Costa Mesa joined the National Flood Insurance Program in June 1971. This action allows residents and business interests to obtain flood insurance at reduced rates to protect property within the flood hazard area. As a part of the City's involvement, Costa Mesa agreed to adopt and enforce land use and control measures that will guide land development in flood-prone areas to avoid or reduce future flood damage. In response to this, Costa Mesa requires all developments constructed in the flood hazard area to be flood-proofed. Specific conditions applied to such developments are listed below.

Residential: All residential units shall have the first finished floor of all habitable portions of the structure elevated _____ (specific elevation relates to anticipated water depth) feet above the existing grade, unless the property is exempted or other flood protection measures are approved by the Federal Insurance Administration.

Nonresidential: All buildings shall have the first finished floor elevated _____ (specific elevation relates to anticipated water depth) feet above the existing grade, or be floodproofed to this height, unless the property is exempted or other flood protection measures are approved by the Federal Insurance Administration.

Floodplain management programs can also be employed as a mitigation measure. Under this approach, the City regulates the type and intensity of development in potential flood areas and only permits those uses less susceptible to flood damage. Such management policies are incorporated into the zoning ordinance and subdivision regulations. Golf courses, parking lots, public parks and other open space facilities are the most common uses permitted in flood plains. Areas subject to high floodwater elevations adjacent to the Santa Ana River are subject to this type of regulation.

SANTA ANA RIVER WATERSHED

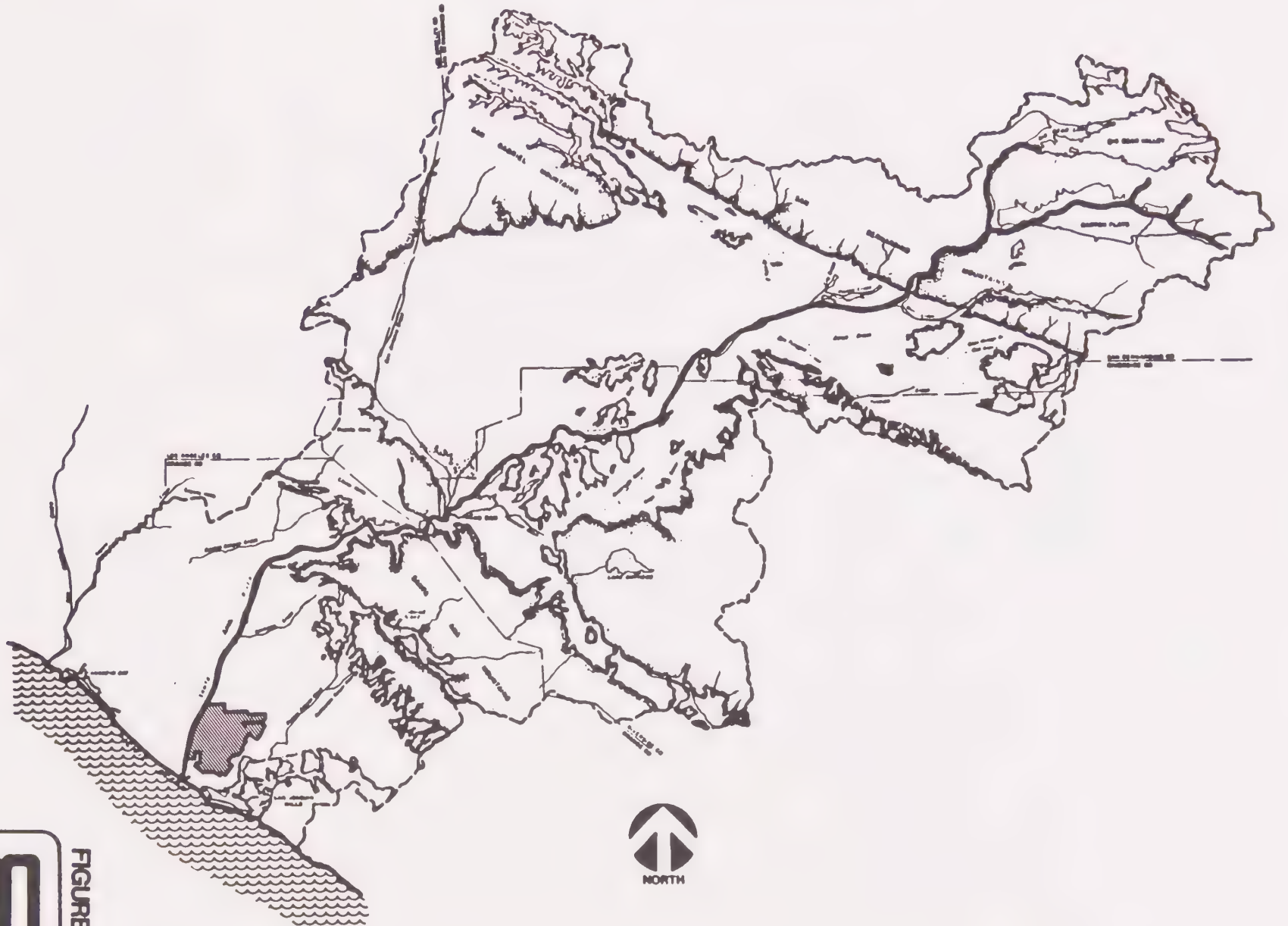


FIGURE 11

DRAINAGE AREAS



SANTA ANA RIVER DRAINAGE AREAS

1. UPPER GREENVILLE - BANNING CHANNEL
2. GISLER AVENUE STORM DRAIN
3. ESTANCIA DRAINAGE AREA
4. LOWER GREENVILLE - BANNING CHANNEL
5. NORTH COSTA MESA STORM DRAIN

UPPER NEWPORT BAY DRAINAGE AREAS

6. SANTA ANA - DELHI DRAINAGE AREA
7. PAULARINO CHANNEL
8. NEWPORT DRAINAGE AREA
9. ORANGE - MESA DRIVE AREA
10. CHERRY LAKE DRAINAGE AREA
11. DOVER DRAINAGE AREA
12. 16th DRAINAGE AREA
13. INDUSTRIAL STORM DRAIN

FIGURE 12





Although the Santa Ana River contains little or no flow throughout most of the year, the river represents a significant flood hazard to the adjacent residential and industrial developments.



FLOOD HAZARD AREA

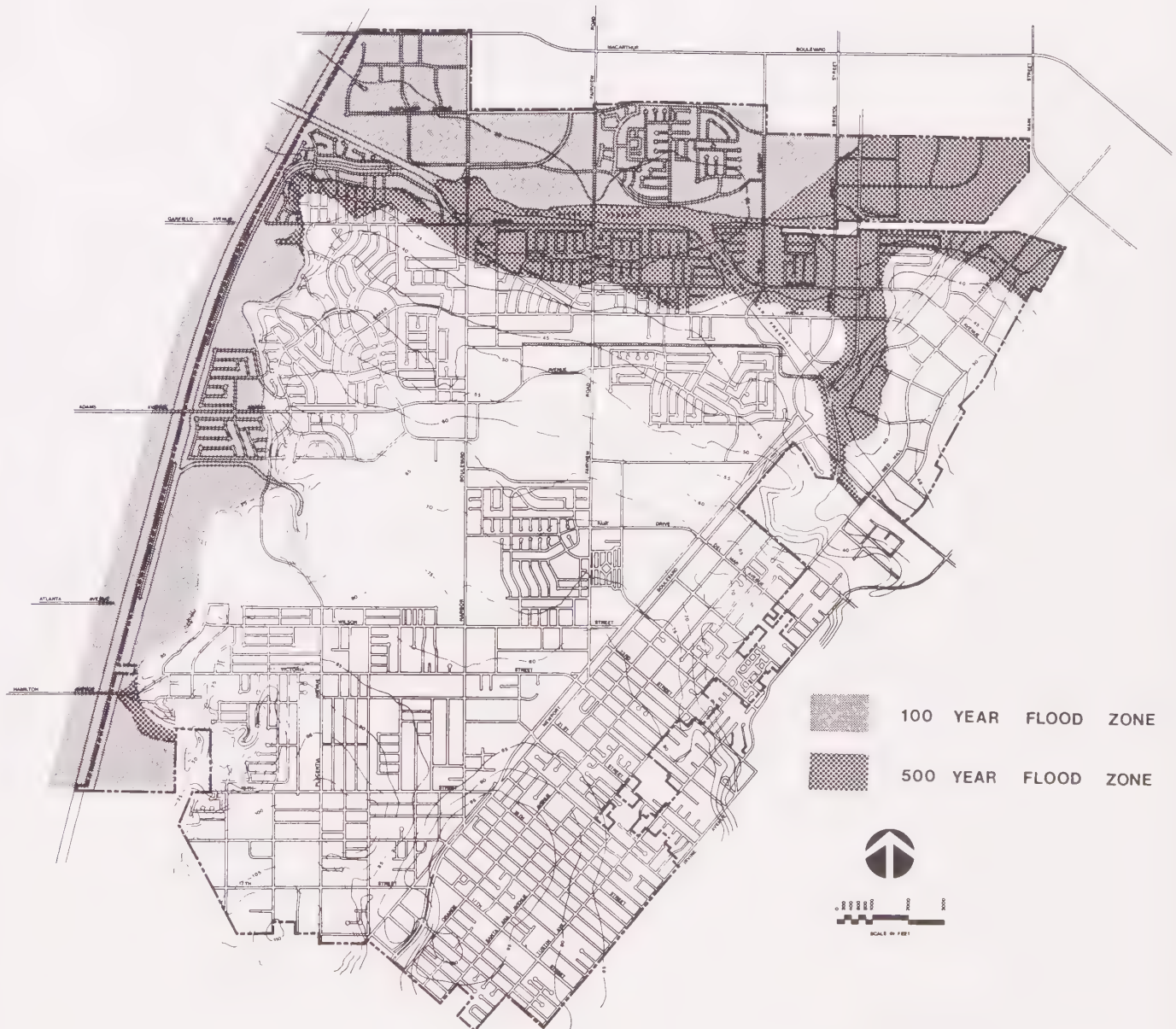
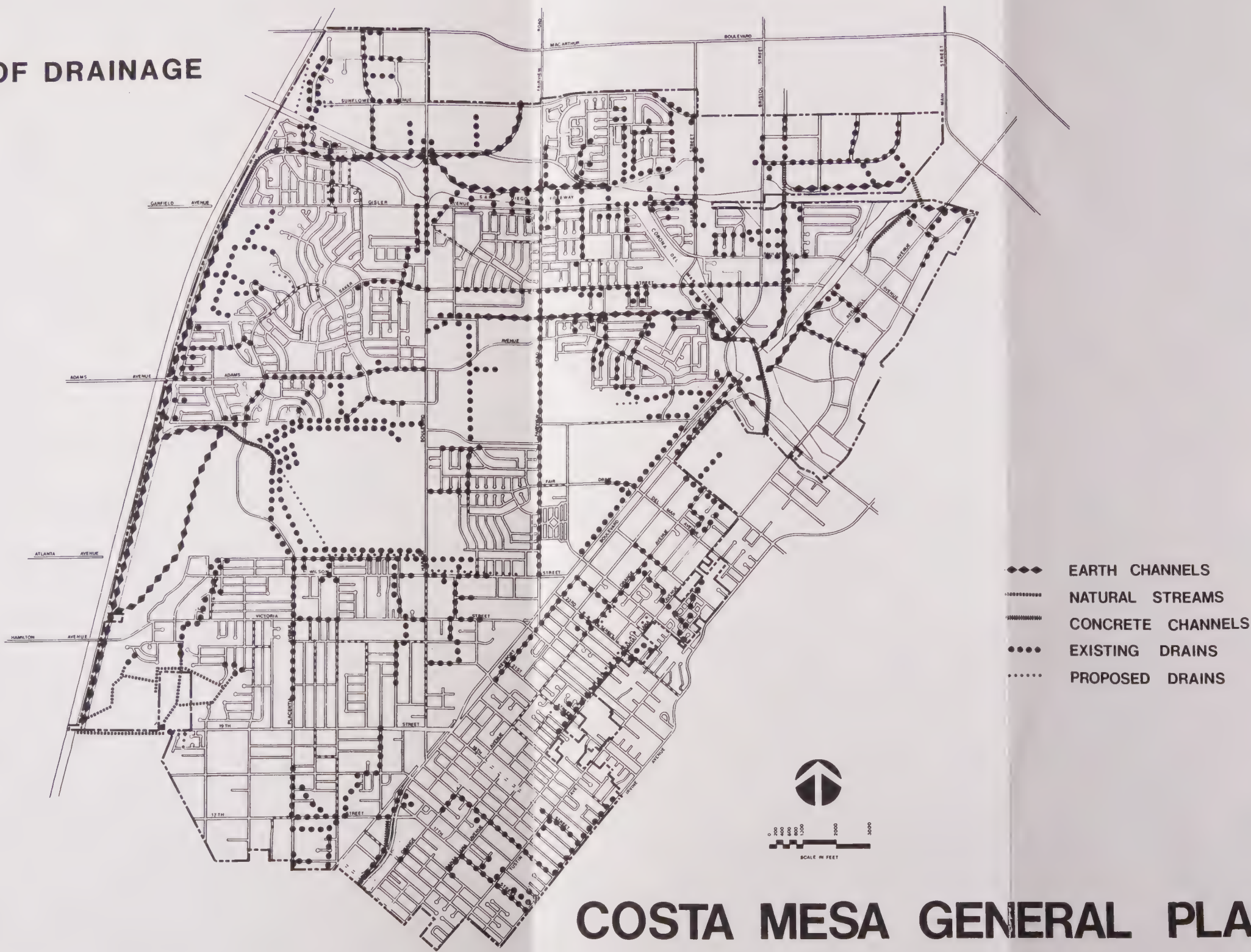


FIGURE 13



MASTER PLAN OF DRAINAGE

JANUARY 1991



COSTA MESA GENERAL PLAN

FIGURE 14



WATER CONSERVATION

The importance of water conservation programs was brought into focus during the 1975-77 drought in California and is again brought into the forefront with the current drought the State is experiencing. In response to the current drought conditions, Metropolitan Water District has implemented a mandatory water rationing plan for its customers. In response to this plan, both Santa Heights Water Company and MCWD have adopted water conservation policies.

Santa Heights Water Company has adopted a resolution that requires all customers to discontinue wasteful and nonessential use of water. Examples of nonessential water use is emptying and filling pools, washing drives, walks and patios, and runoff or over-spray from irrigation. MCWD has asked for a voluntary 10% reduction in water use for its customers.

The City of Costa Mesa also encourages water conservation in all new developments to incorporate all interior and exterior water conservation measures required by State law and the affected water agencies.

The Orange County Water District has been working with several local water agencies to develop the Green Acres Project to provide 5-7 million gallons per day of highly treated reclaimed water for irrigation of landscape areas within five miles of Water Factory 21 (located in Fountain Valley). This water will be used to irrigate greenbelts, cemeteries, golf courses, and parks on both public and privately owned land. The Green Acres Project should be operational and available for use in Costa Mesa in 1992. MCWD will be responsible for its delivery, and future uses of the reclaimed wastewater may also include a dual water system in new large-scale developments for use in toilets.

Based on national averages, residential water use consists of 68 percent indoor use and 32 percent outdoor use. Water conservation can be made a part of land use planning considerations. Indoor use can be significantly reduced by the installation of water-saving fixtures in new construction and renovation projects. Outdoor use can also be significantly reduced by the use of water-conserving landscaping: drought-tolerant plants, adequate fertilization, plants grouped by water demand and proper irrigation.

GOALS, OBJECTIVES AND POLICIES

The goals, objectives, and policies of the Costa Mesa General Plan that address hydrology and water supply and conservation are as follows:

GOAL I: ENVIRONMENTAL QUALITY AND RESOURCE CONSERVATION

It is the goal of the City of Costa Mesa to provide its citizens with a high quality environment through the development and conservation of resources, including land, water, minerals, wildlife, and vegetation; the protection of areas of unique natural beauty and historical, social, cultural, and scientific interest; the integration of natural features into the man-made environment; and the preservation of open space.

Objective I-D: Work towards the protection and conservation of the City's existing and future water resources recognizing water as a limited resource requiring conservation.

25. Require, as a part of the environmental review procedure, an analysis of major development or redevelopment project impacts on local water supplies and water quality and an analysis of the impact on water capacity, water availability, and water costs.
26. Pursue the use of reclaimed wastewater for the irrigation of all appropriate open space facilities and require new developments and City projects, and encourage existing developments to tie into the reclaimed water system when recommended by the Orange County Water District or Mesa Consolidated Water District.
27. Require proposed development projects to incorporate all interior and exterior water conservation measures required by State law and State and local water agencies. Encourage the implementation of measures recommended by water agencies.
28. Amend the landscape standards to require the use of low flow irrigation systems and native California vegetation and/or other low water demand plants, with evaluation as to their drought resistance, in all proposed development projects.
29. Encourage Mesa Consolidated Water District to offer credits, rebates, or reduced water rates to users of "Green Acres" reclaimed wastewater.
30. Require, when possible, reuse of pumped water from long-term dewatering operations for landscape irrigation or for construction.
31. Cooperate with the Mesa Consolidated Water District and Santa Ana Heights Water Company to advise the citizens of Costa Mesa of the benefits which can be obtained from the practices of water conservation.
32. Encourage potential private sector uses of reclaimed wastewater in Costa Mesa to use such water for the irrigation of landscaped areas by publicizing the economic and environmental benefits of this action.
33. Direct developers to work with the local water agency when the water agency determines that a project impacts the local water supply system; the water agency may require fees or other financial assessments of developers to finance any required expansion of the water supply system to serve new projects.

GOAL II: ENVIRONMENTAL PROTECTION AND PRESERVATION

It is the goal of the City of Costa Mesa to protect its citizens and property from injury, damage, or destruction from environmental hazards, including hydrologic, geologic, and climatic episodes, and to work towards the improved noise abatement and improved air and water quality.

Objective II-A: Work towards the mitigation or prevention of potential adverse consequences of natural disasters.

67. Permit in 100-year flood plains only those new uses which are floodproofed or which can sustain periodic flooding.
68. Require that new development within the 100-year flood plain elevate building pads or floodproof sufficiently to protect the buildings from a 100-year flood.
69. Cooperate with local, State, and Federal flood control agencies to reduce the potential for flood damage in the City of Costa Mesa.
70. Drainage plans shall be based on the current Master Plan of Drainage and designed based upon the current Orange County Hydrology Manual.
77. Require all proposed development projects to be designed to minimize both the volume and velocity of surface runoff and permit no adverse downstream impacts due to increased runoff through the proper design of subsurface drains, appropriate grading, on-site retention basins, landscape programs, or other appropriate measures.
78. Publicize the extent of flood hazards within Costa Mesa and advise affected residents and property owners of appropriate protection measures. Develop an education program, such as the Flood Awareness Program, and emergency disaster plans for flooding.
79. Strongly encourage County, State, and Federal agencies to complete flood control improvements to the Santa Ana River and Greenville-Banning Channel to protect Costa Mesa residents and property located in the 100-year flood zone from a potential major disaster.

Objective II-B: Pursue the prevention of the significant deterioration of local and regional air and water quality.

83. Require, as a part of the environmental review procedure, an analysis of major development or redevelopment project impacts on local and regional air and water quality.
85. Require compliance with regional, State, and Federal regulatory agencies to enforce water quality regulations and reduce surface water pollution.
86. Review existing street cleaning policies and equipment and evaluate all necessary modifications (use of vacuum street sweeping equipment, slower sweeping speeds, modified schedules, etc.) to reduce surface water pollution.
88. Investigate alternative methods to improve all streets with curbs and gutters to facilitate removal of significant street pollutants throughout the community.
89. Discourage on-street parking during street sweeping hours.

REFERENCES

1. General Plan (City of Costa Mesa) 1981
2. Master Drainage Plan for City of Costa Mesa, Updated 1991
3. Santa Ana Heights Water Company, 1988 Water System Master Plan Update, October 1988
4. Water Conservations in Residential Development: Land-Use Techniques APA, PAS Report Number 373
5. 1990 Master Plan, Mesa Consolidated Water District
6. Persons and Organizations Consulted:
 1. C.O. Reinhardt, V.P., Santa Ana Heights Water Company
 2. Bob Brock, Public Services Department, City of Costa Mesa
 3. Bill Morris, Public Services Department, City of Costa Mesa
 4. Nereus Richardson, Orange County Water District
 5. Gene Watson, Mesa Consolidated Water District

Biological Resources

BIOLOGICAL RESOURCES

Costa Mesa's largely developed nature belies the variety of wildlife and natural vegetation located within and adjacent to the City limits. The following sections will inventory and discuss these resources in greater detail.

FLORA AND FAUNA

A majority of Costa Mesa's valuable biologic resources are located in areas free from large scale development intrusion. Areas such as these are found in western Costa Mesa near the Santa Ana River (Figure 15). Additionally, the agricultural fields in northern Costa Mesa support a unique animal community related to field crop production. Although directly related, the City's vegetative (flora) resources and animal (fauna) resources will be described separately.

Flora

Prior to man's intense occupation of the area within what is now Costa Mesa, the ground was probably covered with a wide variety of native grasses with small sagescrub communities along the coastal bluffs and canyons. What remains of this natural environment is not representative of conditions at that time. The grasslands on the mesa at the Fairview Park site and Santa Ana River lowlands have been significantly altered by the introduction of nonnative grasses; grazing, agricultural production and discing; and frequent human activity. Adjacent sage-scrub communities have been disrupted by bluff erosion and grading while the smaller riparian community near the Santa Ana River has been impacted by efforts to channelize the river for flood protection purposes.

In spite of these alterations, examples of all three communities (grassland, sage-scrub and riparian) can be found in limited amounts within the present City limits. Grasslands are generally found at low elevations on flat plains or gentle hillsides having a deep layer of clay-bearing soil. A list of plants generally associated with this community is included below.

TABLE 6: PLANTS OF THE GRASSLAND COMMUNITY

<u>Common Names</u>	<u>Technical Names</u>
Johnson grass	<u>Sorghum halepense</u>
Spear grass	<u>Stipa speciosa</u>
Beard grass	<u>Andropogon saccharoides</u>
Cactus	<u>Opuntia occidentalis</u>
Brome grass	<u>Bromus mollis and rubens</u>
Golden-top grass	<u>Lamarckia aurea</u>
Wild oat	<u>Avena fatua</u>
Slender wild oat	<u>Avena barbata</u>
Yellow mustard	<u>Brassica campestris</u>

TABLE 6: PLANTS OF THE GRASSLAND COMMUNITY
(Continued)

<u>Common Names</u>	<u>Technical Names</u>
Filaree	<u>Erodium moschatum</u>
Wild pansy	<u>Viola pendunculata</u>
Wild onion	<u>Allium haematochiton</u>
Buckwheat	<u>Eriogonum fasciculatum</u>
Shooting star	<u>Dodecatheon clevelandii</u>
Wild barley	<u>Hordeum murinum</u>
Peppergrass	<u>Lepidium nitidum</u>
Hyacinth	<u>Brodiaea pulchella</u>
Buttercup	<u>Ranunculus californicus</u>
Chocolate lily	<u>Fritillaria biflora</u>
California sagebrush	<u>Artemisia californica</u>
California poppy	<u>Eschscholtzia californica</u>

Species most common to the Fairview Park and river lowlands are Russian thistle (Salsola kali), Curly Dock (Rumex crispus), mustard, Mexican tea (Chenopodium ambrosioides), Bermuda (Cynodon dactylon), Brome, wild oat, Italian rye (Lolium multiflorum), clover (Trifolium sp.) and Buckwheat.

Sage-Scrub communities, consisting of grayish-green scrub usually less than three feet high, can be found at elevations less than 3,000 feet on foothills and coastal bluffs and canyons. The most prevalent form of sage in the Costa Mesa area is the coastal sage. Plants most commonly associated with this community are noted below.

TABLE 7: PLANTS OF THE SAGE-SCRUB COMMUNITY

<u>Common Names</u>	<u>Technical Names</u>
Melic grass	<u>Melica frutescens</u>
Soap plant	<u>Chlorogalum pomeridianum</u>
Slender wild oat	<u>Avena barbata</u>
Wild oat	<u>Avena fatua</u>
Buckwheat	<u>Eriogonum fasciculatum</u>
Wild onion	<u>Avvium haematochiton</u>
Golden-star	<u>Bloomeria crocea</u>
Hedge mustard	<u>Sisymbrium officinale</u>
Laurel sumac	<u>Rhus laurina</u>
Purple sage	<u>Salvia leucophylla</u>
Black sage	<u>Salvia mellifera</u>
White sage	<u>Salvia apiana</u>
California sagebrush	<u>Artemisia californica</u>
Deerweed	<u>Lotus scoparius</u>
Lemonade berry	<u>Rhus integrifolia</u>
Live forever	<u>Dudleya stolonifera</u>
Wild rose	<u>Rosa californica</u>



The Santa Ana River lowlands support a wide variety of plant life such as castor beans, arroyo willows and a number of grasses.



Buckwheat, sagebrush, pitcher sage (Salvia spatheca), Brittlebrush (Encelia californica) and limited amounts of chaparral can be found along the river bluffs and canyons.

Riparian communities are associated with relatively permanent springs, streams, seeps and ponds. Within Costa Mesa such communities are found around the small pond near the Santa Ana River and Victoria Street, in the northwestern portion of the Fairview Park and along the bottom of Canyon Park. Because of the available water, these areas provide favorable habitats for a large variety of trees, shrubs and grasses. Such communities are generally characterized by the following species:

TABLE 8: PLANTS OF THE RIPARIAN COMMUNITY

<u>Common Names</u>	<u>Technical Names</u>
White alder	<u>Alnus rhombifolia</u>
Canyon oak	<u>Quercus chrysolepis</u>
Big leaf maple	<u>Acer macrophyllum</u>
Sword fern	<u>Polystichum munitum</u>
Western sycamore	<u>Platanus racemose</u>
Fremont cottonwood	<u>Populus fremontii</u>
Wild grape	<u>Vitis giardiana</u>
Cat-tail	<u>Typha latifolia</u>
Poison oak	<u>Rhus diversiloba</u>
Arroyo willow	<u>Salix lasiolepis</u>
California bay laurel	<u>Umbellularia californica</u>
Blue elderberry	<u>Sambucus coerulea</u> var. <u>Mexicana</u>
Pine (Longleaf pine)	<u>Pinus palustris</u> (introduced)
Bullrush (Tule)	<u>Scirpus</u> spp.
Mulefat (Guatomote)	<u>Baccharis viminea</u>
Castor bean	<u>Ricinus communis</u>

Mulefat, tules (Scripus acutus), tamarisks (Tamarisk tetandra), pampas grass (Cortaderia selloana), arroyo willow, castor bean and stands of cane (Arundo donax) are common native and nonnative plants in Costa Mesa.

Subsequent urban development and agricultural production have introduced a wide variety of nonnative vegetation to the area. These species were imported as agricultural crops (citrus fruits, avocados, grapes), for protection from winds (eucalyptus) and as ornamental landscaping. A majority of these trees, shrubs and flowers were brought from the Mediterranean Region, South Africa, South America, Central America, Australia and Eastern Asia, as well as northern California and eastern United States. Canary Island Pine, a variety of species of eucalyptus, deodar, podocarpus, pyracantha, azaleas and pittosporum are only a few examples. Today, species such as these are the dominant forms of vegetation within Costa Mesa.

BIOLOGICAL RESOURCES

FLORA

GRASSLAND

RIPARIAN

SAGE - SCRUB

AGRICULTURE

FAUNA

SIGNIFICANT HABITATS

TRAP DOOR SPIDER

CALIFORNIA
LEAST TERN

BURROWING OWL



COSTA MESA GENERAL PLAN

FIGURE 15



Fauna

Based on paleontologic records, it appears that Orange County was inhabited by a wide variety of wildlife ranging from bison, jaguars, camels, wolves, ground sloths, bears and sabre-toothed cats to shrews and rats. The skeletal remains of a nearly perfectly preserved mastodon was excavated in 1962, near the intersection of Boa Vista Drive and Nevis Circle. However, as was the case of Costa Mesa's vegetative heritage, today's range of wildlife has been substantially reduced to those species which have adapted to close human contact. What remains today is an abbreviated predator-prey food chain consisting of squirrels, voles, white-tail kites, redtail hawks, occasional coyotes and numerous dogs and cats. The dominant form of wildlife is the California ground squirrel (Spermophilus beecheyi).

There is a direct relationship between the type and diversity of plant materials found in an area and the type and diversity of wildlife supported by this vegetation. The plant communities on the County of Orange Talbert/Fairview Park and the City's Fairview Park sites offer seasonally important sources of food for migratory birds, occasional nesting and feeding sites for sea and shore birds. In the same area, the bluffside vegetation and thickets provide habitats for more reclusive species of birds, mammals and reptiles.

Some of these species which inhabit the remaining undeveloped lands within Costa Mesa are unique and of special interest. An example is the burrowing owl (Speotyto cuniculara). Observations of the owls have been reported on the Costa Mesa Golf Course and Country Club, on the slopes of the Corona del Mar Freeway, and on the Orange County Fairgrounds. The burrowing owl is a wild indigenous species of predatory bird which uses abandoned rodent burrows for nests, currently on the Audobon Society Blue List of rare birds.

Two other species which are becoming increasingly rare in the area occupy the County's parks and City's Fairview Park. The first, Coast horned lizard (Phrynosoma loronatum), is extremely rare in this area. Second is the reclusive trapdoor spider, found along the bluff edge feeding on small ground dwelling insects. These spiders are found in higher concentrations on the park site than elsewhere in Orange County. Provisions to retain a natural area for the spiders are included in the development plans for the park.

The most significant species which frequents Costa Mesa is the California least tern (Sterna albifrons), included on the State and Federal list of endangered species. Although the primary nesting sites for the least tern are located farther south at the mouth of the Santa Ana River, the pond south of Victoria Street provides an occasional feeding area. The pond is of such importance that it has been proposed as an "essential habitat" for the tern colony by the United States Department of Interior, Fish and Wildlife Service. Other water fowl such as ducks, geese, grebes, gulls and shorebirds are also attracted to this pond.

A list of wildlife species which are known, or are presumed to inhabit Costa Mesa is provided in Tables 9 and 10.

URBAN DEVELOPMENT EFFECTS

The degree to which Costa Mesa's natural biologic resources have been altered is an unfortunate by-product of rapid urbanization. What remains of the area's native vegetation and endemic wildlife is only a small sample of the City's once rich biotic environment.

Continued development of the agricultural fields in northern Costa Mesa, infill and recycling of vacant and undeveloped lots in other areas of the City will not reverse this trend. Although the impacts of urban development are often attributed to private development interests, it will be public projects which will have the greatest impacts on Costa Mesa's remaining natural resources. The possible extension of 19th Street across the Santa Ana River would reduce existing habitat acreage but may upgrade the wetland habitat in the area as mitigation. Even the planned development of Fairview Park will result in substantial modifications. A majority of the existing vegetation will be removed and replaced with additional native California plants. Subsequent increases in human activities will further disrupt the ecologic processes of the area.

Efforts to protect some of the City's valuable biotic resources have been initiated during the past few years. Other examples include the interest in the Santa Ana River lowlands and canyons by numerous public agencies. All of these areas have been acquired by the County of Orange and City of Costa Mesa to preserve for future public use and enjoyment. The California Coastal Plan indicates that the river lowlands and saltmarsh to the south are capable of restoration and are proposed as a regional park and wildlife habitat. At the Federal level, the Department of Interior Fish and Wildlife Service has identified the pond south of Victoria Street as an "essential habitat" for the California least tern.

Conservation of Costa Mesa's natural biologic resources can provide significant benefits. A program to reintroduce native plant material at Fairview Park and the Santa Ana River lowlands and canyons could reduce maintenance costs and responsibilities of traditional urban parks. Such a program may also result in an increasingly diverse annual population if protected from excessive human interaction. The retention of these publicly owned lands in relatively natural states will encourage the establishment of new ecosystems as varied habitats are created. Facilities such as these would provide unique educational and recreational experiences not found in most urbanized areas.



The California Ground Squirrel is the most common form of wildlife in Costa Mesa.



The pond south of Victoria Street near the Santa Ana River supports a wide variety of water fowl and shore birds such as black necked stilts.

Table 9
SPECIES LIST OF MAMMALS*

<u>Common Name</u>	<u>Scientific Name</u>	<u>Confirmed Observation</u>	<u>Evidence of Presence Found</u>	<u>Possibly Present</u>
Opossum	<u>Didelphis marsupialis</u>	X		
Vagrant shrew	<u>Sorex vagrans</u>	X		
Branded mole	<u>Scapanus latimanus</u>			X
Black-tailed hare	<u>Lepus californicus</u>	X		
Desert cottontail	<u>Sylvilagus audubonii</u>	X		
Calif. ground squirrel	<u>Spermophilus beecheyi</u>	X		
Valley pocket gopher	<u>Thomomys bottae</u>	X		
Western harvest mouse	<u>Reithrodontomys megalot</u>			X
California mouse	<u>Peromyscus californicus</u>	X		
Cactus mouse	<u>Peromyscus eremicus</u>			X
Deer mouse	<u>Peromyscus maniculatus</u>			X
Calif. meadow mouse	<u>Microtus californicus</u>	X		
House mouse	<u>Mus musculus</u>	X		
Wood rat	<u>Neotoma spp.</u>	X		
Long tailed weasel	<u>Mustela frenata</u>	X		
Striped skunk	<u>Mephitis mephitis</u>	X		
Calif. valley coyote	<u>Canis latrans ochropus</u>	X		

SPECIES LIST OF REPTILES & AMPHIBIANS

Side-blotched lizard	<u>Uta stansburnia</u>	X		
Western fence lizard	<u>Sceloporus occidentalis</u>	X		
Southern aligator lizard	<u>Gerrhonotus multicarinatus</u>			X
Western skink	<u>Eumeces skiltonianus</u>			X
Coast horned lizard	<u>Phrynosoma coronatum</u>	X		
California king snake	<u>Lampropelthis getulus</u>	X		
Gopher snake	<u>Pituophis melanoleucus</u>	X		
Western garter snake	<u>Thamnophis elegans</u>	X		
Pacific tree frog	<u>Hyla regilla</u>	X		
Western toad	<u>Bufo boreas</u>	X		
Calif. slender salamander	<u>Batrachoseps attenuatus</u>	X		

* Survey Completed in 1978

Table 10
SPECIES LIST OF BIRDS *

<u>Common Name</u>	<u>Scientific Name</u>	<u>Confirmed Observation</u>	<u>Evidence of Presence Found</u>	<u>Possibly Present</u>
Eared grebe	<u>Podiceps caspicus</u>	X		
Pied billed grebe	<u>Podilymbus podiceps</u>	X		
Black brant	<u>Branta nigricans</u>	X		
White fronted goose	<u>Anser albifrons</u>	X		
Mallard	<u>Anas platyrhynchos</u>	X		
Green winged teal	<u>Anas carolinensis</u>	X		
Cinnamon teal	<u>Anas cyanoptera</u>	X		
American widgeon	<u>Mareca americana</u>	X		
Shoveler	<u>Spatula clypeata</u>	X		
Canvasback	<u>Aythya valisineria</u>	X		
Lesser scamp	<u>Aythya affinis</u>	X		
Bufflehead	<u>Bucephala albeola</u>	X		
Heron (California)	<u>Andea herodids hyperonca</u>	X		
Blue throated sparrow	<u>Spizella artogularis cana</u>	X		
Burrowing owl	<u>Speotyto cunicularia</u>	X		
California least tern	<u>Sterna albifrons</u>	X		
Ruddy Duck	<u>Oxyura jamaicensis</u>	X		
Turkey Vulture	<u>Cathartes aura</u>	X		
White Tailed Kite	<u>Elanus leucurus</u>	X		
Sharp-shinned Hawk	<u>Accipiter striatus</u>	X		
Cooper's Hawk	<u>Accipiter cooperii</u>	X		
Red Tailed Hawk	<u>Buteo jamaicensis</u>	X		
Sparrow Hawk	<u>Falco Sparverius</u>	X		
Ring Necked Pheasant	<u>Phasianus colchisus</u>	X		
American Coot	<u>Fulica americana</u>	X		
Semipalmated Plover	<u>Charadrius semipalmatus</u>	X		
Snowy Plover	<u>Charadrius alexandrinus</u>	X		
Killdeer	<u>Charadrius vociferus</u>	X		
Spotted Sandpiper	<u>Actitis macularia</u>	X		
Willet	<u>Catoptrophorus semipalmatus</u>	X		
Lesser Yellowlegs	<u>Totanus flavipes</u>	X		
Dunlin	<u>Erolia alpina</u>	X		
Dowitcher sp.	<u>Limnodromus sp.</u>	X		
Western Sandpiper	<u>Ereuntes mauri</u>	X		
Sanderling	<u>Crocethia alba</u>	X		
American Avocet	<u>Recurvirostra americana</u>	X		

* Survey Completed in 1978

<u>Common Name</u>	<u>Scientific Name</u>	<u>Confirmed Observation</u>	<u>Evidence of Presence Found</u>	<u>Possibly Present</u>
Black Necked Stilt	<u>Himantopus mexicanus</u>	X		
Ring Billed Gull	<u>Larus delewarensis</u>	X		
Bonaparte's Gull	<u>Larus philadelphia</u>	X		
Mourning Dove	<u>Zenaidura macroura</u>	X		
Spotted Dove	<u>Streptopelia chinensis</u>	X		
Anna's Hummingbird	<u>Calypte anna</u>	X		
Belted Kingfisher	<u>Megaceryle alcyon</u>	X		
Red Shafted Flicker	<u>Colaptes cafer</u>	X		
Black Phoebe	<u>Sayornis nigricans</u>	X		
Say's Phoebe	<u>Sayornis saya</u>	X		
Common Crow	<u>Corvus brachyrhynchos</u>	X		
Common Bushtit	<u>Psaltiriparus minimus</u>	X		
Bewick's Wren	<u>Thryomanes bewickii</u>	X		
Cactus Wren	<u>Campylorhynchus brunneicapillum</u>	X		
Long Billed Marsh Wren	<u>Telmatodytes palustris</u>	X		
Mockingbird	<u>Mimus polyglottos</u>	X		
Hermit Thrush	<u>Hylocichla guttata</u>	X		
Blue-grey Gnatcatcher	<u>Polioptila caerulea</u>	X		
Ruby Crowned Kinglet	<u>Regulus calendula</u>	X		
Water Pipit	<u>Anthus spinoletta</u>	X		
Loggerhead Shrike	<u>Lanius ludovicianus</u>	X		
Starling	<u>Sturnus vulgaris</u>	X		
Audubon's Warbler	<u>Dendroica auduboni</u>	X		
Yellowthroat	<u>Geothlypis trichas</u>	X		
Western Meadowlark	<u>Sturnella neglecta</u>	X		
House Finch	<u>Caepodacus mexicanus</u>	X		
American Goldfinch	<u>Spinus tristis</u>	X		
Lesser Goldfinch	<u>Spinus psaltria</u>	X		
Rufous Sided Towhee	<u>Pipilo erythrophthalmus</u>	X		
Brown Towhee	<u>Pipilo fuscus</u>	X		
Savannah Sparrow	<u>Passerculus sandwichensis</u>	X		
Oregon Junco	<u>Junco oreganus</u>	X		
White Crowned Sparrow	<u>Zonotrichia leucophrys</u>	X		
Golden Crowned Sparrow	<u>Zonotrichia atricapilla</u>	X		
Lincoln's Sparrow	<u>Melospiza lincolnii</u>	X		
Song Sparrow	<u>Melospiza melodia</u>	X		

California Least Tern
(*Sterna albifrons*)



California Trap Door Spider
(*Bothriocyrtum californicum*)



Burrowing Owl
(*Speotyto cunicularia*)



Coast Horned Lizard
(*Phrynosoma coronatum*)

GOALS, OBJECTIVES AND POLICIES

The goals, objectives, and policies of the Costa Mesa General Plan that address biological resources are as follows:

GOAL I: ENVIRONMENTAL QUALITY AND RESOURCE CONSERVATION

It is the goal of the City of Costa Mesa to provide its citizens with a high quality environment through the development and conservation of resources, including land, water, minerals, wildlife, and vegetation; the protection of areas of unique natural beauty and historical, social, cultural, and scientific interest; the integration of natural features into the man-made environment; and the preservation of open space.

Objective I-B: Evaluate the preservation of the City's existing biotic resources in as ecologically viable and natural a condition as possible, and, where feasible, restore and integrate these resources into the urban environment.

15. Ensure that all future developments will be adequately reviewed with regard to possible adverse effects on plant and animal life and critical wildlife habitat and wetlands, and, where feasible and appropriate, incorporate sufficient mitigation measures into the project design to reduce such effects.
16. Require landscape plans for all public and private developments to consider the retention and/or enhancement of existing mature vegetation.

REFERENCES

1. General Plan (City of Costa Mesa) 1981
2. Environmental Resources/Management Element; City of Costa Mesa General Plan (City of Costa Mesa) 1978
3. Persons and Organizations consulted:
 1. John Burke, Orange County Fairgrounds
 2. Lisa Burke, County of Orange EMA
 3. Dave Alkema, City of Costa Mesa Leisure Services Department

Open Space

OPEN SPACE

The importance of open space in today's increasingly urban environment led the State legislature to require the inclusion of an open space element in all local government general plans (Government Code Section 65302(e)). This requirement was based on the concept that open space is a limited and valuable resource which must be conserved wherever possible. It was noted by the legislature that the preservation of open space land is necessary not only for the maintenance of the State's economy, but also for assurance of the continued availability of land for the production of food and fiber, for enjoyment of scenic beauty, for recreation and for the use of natural resources. Open space land and uses also contribute to neighborhood identity, provide visual and psychological relief from intense urban environments and control or direct new growth and development.

Open space lands and uses can be defined in relation to the functions which these lands serve and to the benefits derived from the use of these lands. Section 65560 of the Government Code identifies four specific definitions of open space uses as noted below:

- (1) Open space for the preservation of natural resources including, but not limited to, areas required for the preservation of plant and animal life, including habitat for fish and wildlife species; areas required for ecologic and other scientific study purposes; rivers, streams, bays and estuaries; and coastal beaches, lakeshores, banks of rivers and streams, and watershed lands.
- (2) Open space used for the managed production of resources, including but not limited to, forest lands, rangeland, agricultural lands and areas of economic importance for the production of food or fiber; areas required for recharge of groundwater basins; bays, estuaries, marshes, rivers and streams which are important for the management of commercial fisheries; and areas containing major mineral deposits, including those in short supply.
- (3) Open space for outdoor recreation, including but not limited to, areas of outstanding scenic, historic and cultural value; areas particularly suited for park and recreation purposes, including access to lakeshores, beaches, and rivers and streams; and areas which serve as links between major recreation and open space reservations, including utility easements, banks of rivers and streams, trails, and scenic highway corridors.

- (4) Open space for public health and safety, including but not limited to, areas which require special management or regulation because of hazardous or special conditions such as earthquake fault zones, unstable soil areas, flood plains, watersheds, areas presenting high fire risks, areas required for the protection of water quality and water reservoirs and areas required for the protection and enhancement of air quality.

Examples of each of these open space uses can be found in Costa Mesa. In some instances, an individual open space facility may perform a variety of functions. As an example, the development of the City's Fairview Park will preserve and upgrade an existing wildlife habitat, provide outdoor recreational uses, protect a significant archaeological site and offer an ideal development alternative compatible with the flood and geologic hazards associated with the lowlands adjacent to the Santa Ana River.

The commitment of the City of Costa Mesa to meet the intent and goals established by the State Legislature is evident in many governmental actions. In 1973, the City Council adopted the Environmental Management System which included the Open Space, Conservation and Scenic Highways Elements of the General Plan. Later in the same year, the citizens of Costa Mesa approved two bond issues totalling \$3.9 million to acquire and develop additional parkland. All of the bond money was spent to purchase portions of Fairview Park and to acquire and develop Pinkley, Shiffer, Brentwood, Wakeham, and Wilson Parks. The City has also preserved open space by receiving land dedication or park acquisition fees from developers or by securing easements from private construction projects. Acquisition and improvement of Wimbledon, Fairview and Canyon Park sites are major projects acquired and improved by this program.

INVENTORY AND STANDARDS

In 1989, Costa Mesa's inventory of open space lands and uses totaled 2,240 acres - approximately 28 percent of the total area of the City and unincorporated sphere of influence. This inventory is presented on Table 11 and Figure 16. All of these features can be classified into three primary categories: (1) Permanent Open Space (1,673 acres), (2) Interim Open Space (304 acres), and (3) Institutional Open Space (263 acres). Each of these categories is defined and discussed in detail in the following sections.

Permanent Open Space

Permanent open space facilities are those uses which can be expected to remain committed to open space usage through the life of the plan. These uses are predominantly publicly-owned facilities and available, or proposed for public recreational enjoyment. Exceptions which are in private ownership are two golf courses, one private college, one private park and a memorial park/cemetery.

TABLE 11
OPEN SPACE INVENTORY (1990)

OPEN SPACE FEATURES	CURRENT OWNERSHIP*		AREA (ACRES)		Preserve Natural Resources	Manage Resource Production	OPEN SPACE FUNCTIONS			
	Public	Private	Developed	Undeveloped			Outdoor Recreation	Public Health and Safety	Visual and Psychological Relief	Control/Guide Development
CITY PARKLAND			<u>204.16</u>	<u>200</u>						
Balearic Center	L		9.97				o			
Brentwood	F		1.45				o			
Canyons	F		35.00		o		o		o	
Civic Center	F		2.49				o			o
Del Mesa			2.46				o		o	
Estancia	F		10.00				o		o	
Fairview Park Site	F		11.00	200	o		o		o	
Gisler		F	3.15				o			
Harper School	L		1.00				o		o	
Heller		F	2.61				o		o	
Lindbergh School	L		1.00				o		o	
Lions	F		8.26				o		o	
Marina View	F		2.29				o	o	o	
Mesa Verde	F		2.66				o		o	
Paularino	F		2.23				o		o	
Pinkley	F		2.58				o			
Rea	F		13.90				o		o	
Smallwood	F		3.38				o		o	
Shiffer	F		6.72				o		o	
Suburbia	F		1.80				o		o	
Tanager	F		7.42				o		o	
TeWinkle	F		44.67				o		o	
Town Center		E	2.90				o		o	
Willard T. Jordan	F		2.48				o		o	o
Vista	F		6.02				o		o	
Wakeham Park	F		9.91				o		o	
Wilson Park	F		3.45				o		o	
Wimbledon	F		3.36				o		o	
COUNTY PARKLAND				<u>210</u>						
Fairview Regional Park Site	F			82.62	o			o		
Talbert Regional Park Site	F			127.38	o			o		
NEWPORT-MESA UNIFIED			<u>294.54</u>							
SCHOOL DISTRICT FACILITIES			<u>10.18</u>				o			
Adams School	F		6.25				o			
Back Bay High School	F		29.74				o			
California/TeWinkle Schools	F		8.06				o			
College Park School	F		66.62				o			
Costa Mesa High School	F		19.14				o			
Davis School	F		8.11				o			
District Support			39.99							
Services Center	F		17.64				o			
Estancia High School	F		10.02				o			
Kaiser School	F		8.20*				o			
Killybrooke School	F/L		10.00							
Lindbergh School	F		9.07				o			
Parson School	F		7.30				o			
Paularino School	F		10.35				o			
Pomona School	F		6.88				o			
Sonora School	F		9.12				o			
Victoria School	F		8.92				o			
Whittier School	F		8.94				o			
Wilson School	F						o			
Woodland School	F						o			

F = Owned in Fee, L = Leased from/to another public agency, E = Easement

TABLE 11
continued

OPEN SPACE FEATURES	CURRENT OWNERSHIP*		AREA (ACRES)		Preserve Natural Resources	Manage Resource Production	OPEN SPACE FUNCTIONS			
	Public	Private	Developed	Undeveloped			Outdoor Recreation	Public Health and Safety	Visual and Psychological Relief	Control/Guide Development
COAST COMMUNITY COLLEGE			178.13							
DISTRICT FACILITIES										
Orange Coast College	F		157.32				o			
District Administration	F		13.98						o	
Mesa Verde			6.83				o			
SOUTHERN CALIFORNIA COLLEGE		F	33.85	7.75			o			
HARBOR LAWN MEMORIAL PARK		F	28.82						o	o
GOLF COURSES			502							
Costa Mesa Golf and Country Club	L		238				o	o	o	
Mesa Verde Country Club		F	136				o		o	
Santa Ana Country Club		F	129				o		o	
PARKWAYS AND MEDIANS	F		NA							
INTERIM OPEN SPACE				304						
Vacant Land		F		129	o	o		o		o
Agricultural Land		F		175		o		o	o	o
INSTITUTIONAL OPEN SPACE			262.86							
Fairview Hospital	F		102.00				o		o	
Orange County Fairgrounds	F		150.00				o		o	
Civic Center	F		9.48						o	
Mesa Verde Library	F		1.38						o	
OTHER OPEN SPACE FEATURES			4.49							
Halecrest Park		F	4.49				o		o	
Santa Ana River Greenbelt	F	E		N/A			o	o	o	
TOTALS			1508.85	721.75						
				2230.60						

*Does not include park site.

OPEN SPACE LANDS* (1990)

PARKLAND

-  CITY PARKLAND
-  COUNTY PARKLAND
-  PRIVATE PARKLAND

SCHOOLS

-  PUBLIC (OPEN)
-  PUBLIC (CLOSED)
-  PRIVATE

GOLF COURSES

-  PUBLIC
-  PRIVATE

OTHER OPEN SPACE

-  CEMETERIES
-  AGRICULTURAL LAND
-  PUBLIC FACILITIES
-  SANTA ANA RIVER TRAIL

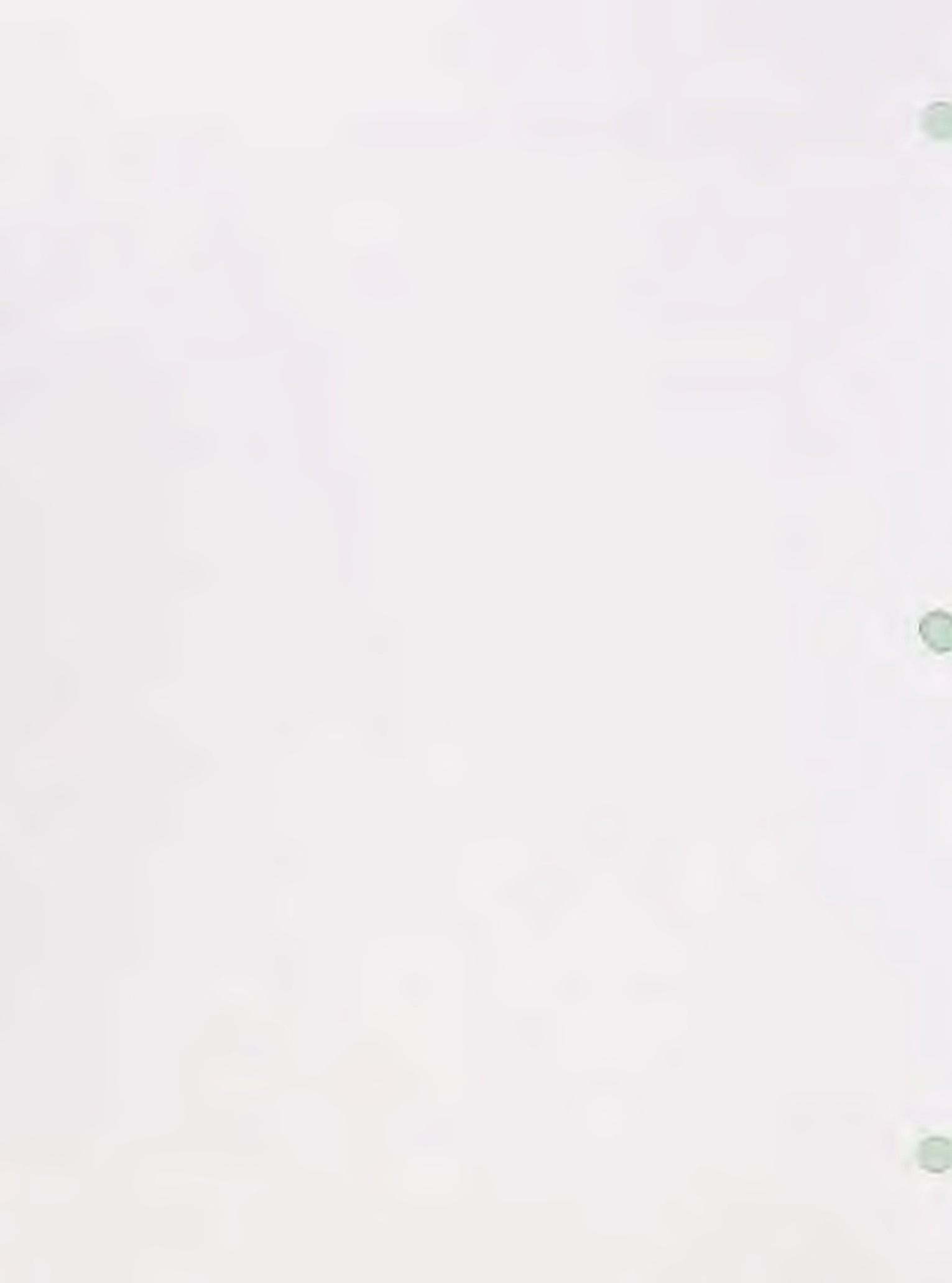


* DOES NOT INCLUDE VACANT LAND

COSTA MESA GENERAL PLAN

FIGURE 16





In adopting the Environmental Management System in 1973, the City Council established a policy to provide 4.0 acres of permanent open space for every 1,000 residents. This minimum standard was further defined as 2.5 acres per 1,000 population of public neighborhood and community parks and 1.5 acres per 1,000 population of recreation related land which is typically provided in conjunction with the public schools system. As part of this General Plan, the City Council established two new policies to gradually increase the ratio of permanent public open space for every 1,000 residents. Policy 1 raises the standard to 4.5 acres per 1,000 population (3.0 acres of neighborhood and community parkland and 1.5 acres of school yards). Policy 2 will require adjustment of the standard to reflect the actual ratio of parkland to population once the results of the 1990 Federal Census are available. This latter action is expected to result in an increase to approximately 4 acres per 1,000 population.

The amount of land allocated to meet these standards and the extent to which the standards are met are noted in the following subsections.

Parkland: Costa Mesa's inventory of parkland includes a variety of public and private, and developed and undeveloped parcels. Totalling approximately 618 acres, this represents the largest portion of the City's permanent open space facilities. The following table provides further detail regarding ownership arrangements and development status.

TABLE 12: PARKLAND INVENTORY

	<u>Acres Developed</u>	<u>Acres Undeveloped</u>	<u>Total Acres</u>
City Parkland	204.16	200	404.16
(Owned)	(192.19)	(200)	(392.19)
(Leased)	(11.97)	(0)	(11.97)
(Open Space Easement)	(2.90)	(0)	(2.90)
County Parkland	0	210	210
Private Parkland	4.49	0	4.49
	<hr/>	<hr/>	<hr/>
TOTAL PARKLAND	<u>208.65</u>	<u>410</u>	<u>618.65</u>

It should be noted that this inventory includes approximately 210 acres owned by the County of Orange adjacent to the Santa Ana River, designated as the Fairview and Talbert Regional Park site.

The private parkland identified in Table 12 is occupied by the Halecrest Tennis and Swim Club. This 4.49 acre facility, located immediately south of Killybrooke School, provides a variety of recreational facilities for its members.

Approximately one-quarter of Costa Mesa's inventory or permanent open space is included in the City's community and neighborhood park system. It is this acreage which is applied to the interim standard of 3.0 acres of public parkland for 1,000 inhabitants. Presently, the City's community and neighborhood park system

includes 404 acres, which is sufficient to meet the parkland requirement when the standard is applied to the 1988 and General Plan buildout population estimates.

TABLE 13: CITY PARKLAND REQUIREMENTS

<u>Existing Park Acreage</u>	<u>Population</u>	<u>Required Acreage Based on 3.0 Acre Standard</u>	<u>Excess Acreage</u>
404	1988 - 91,891	276	128
	Post 2010 - 107,350	322	82

Although the interim parkland standard is met for the City as a whole for 1988 and buildout conditions, that does not mean that all areas of the City are well served with local parkland. The east side of the City continues to be lacking in parkland. Also, introduction of residential uses into the evolving mixed-use area in northeast Costa Mesa will require new park and recreation facilities.

Adjustment of the standard to reflect the actual ratio at the time of the 1990 Census will require the provision of new parkland to maintain this ratio through buildout of the community. Preliminary results indicate that the adjusted ratio may approximate 4.2 acres per 1,000 population. Table 14 applies this estimated standard to 1988 and post 2010 populations.

TABLE 14: POTENTIAL PARKLAND REQUIREMENTS

<u>Existing Park Acreage</u>	<u>Population</u>	<u>Required Acreage Based on Estimated Standard (4.2 acres)</u>	<u>Excess (Deficient) Acreage</u>
404	1988 - 91,891	386	18
	Post 2010 - 107,350	451	(47)

The potential deficiency noted in Table 14 will demand careful planning to ensure that the current ratio is maintained through buildout of the community. Policy 3 recognizes this responsibility and directs the initiation of a comprehensive survey and study to implement the increased standard.

Schools: Public and private educational facilities occupy approximately 545 acres in Costa Mesa. As noted in the following table, the majority of this land is owned by the Newport-Mesa Unified School District (NMUSD) and is developed as elementary, intermediate or high schools. The total area occupied by schools within Costa Mesa is noted below:

TABLE 15: SCHOOL INVENTORY (JANUARY 1988)

Newport-Mesa Unified School District	294.54 AC
Coast Community College District	178.13 AC
Southern California College	<u>41.60 AC</u>
TOTAL	<u>514.27 AC</u>

Of the total area owned by the NMUSD, two acres are leased for public park purposes (Lindbergh and Harper School Parks) and 10 acres (Balearic School) are leased as a recreation center by the City. These areas are not included in the preceding inventory.

As noted in a previous section, the standard of 1.5 acres of recreation land per 1,000 population is typically provided by the public school system. However, since many school facilities are not readily accessible for such use, the amount of land allocated to meet this standard is limited to the open play yards and fields of the total school area. On the average, one-third of the total area is occupied by buildings and parking lots, while the remaining two-thirds are devoted to recreational activities. Table 16 identifies the amount of recreational area required based on 1988 and General Plan buildout population estimates.

TABLE 16: SCHOOL YARDS

<u>Existing School Yard* Acreage</u>	<u>Population**</u>	<u>Required Acreage Based on 1.5 Acre Standard</u>	<u>Excess Acreage</u>
201	1988 - 91,891	138	58
	Post 2010 - 107,350	161	35

*Assume 66 percent of total school acreage is available for recreational use.

As land within this inventory is not under direct control of the City, the City must carefully monitor this inventory to maintain adequate land to meet the adopted standard in the event of school closures or the sale of surplus school sites for private development.

The remaining acreage within this category is used for higher educational facilities; Orange Coast College (a 2-year community college) and Southern California College (a private, 4-year college). Approximately 220 acres are occupied by these institutions.

Cemeteries: Only one cemetery (the Harbor Lawn Mount Olive Mortuary Cemetery) is located in Costa Mesa. This 29-acre facility, located south of Gisler Avenue and west of Harbor Boulevard, provides a source of visual open space.

Golf Courses: Golf courses provide both visual open space and recreational benefits. Two courses are located within the existing City limits. The Costa Mesa Golf Course and Country Club (237 acres) is operated by the City and leased from the State of California while the Mesa Verde Country Club (136 acres) is a private club. Additionally, the Santa Ana Country Club (129 acres) is privately-owned and located within the City's sphere of influence. These three facilities total 502 acres.

Parkways and Medians: Landscaped medians and parkways along major streets provide visual relief in the form of linear open space. Such facilities can be used to reduce the visual impact of large expanses of roadway, to direct and control traffic flow and to screen or orient views from public streets. In addition to City-maintained medians and parkways, landscaped setbacks adjacent to public rights-of-way in private developments contribute to this type of open space. Because of the location of such features within many of Costa Mesa's major transportation corridors, they are often the form of open space which provide the greatest impact on those persons travelling in and through the City. As such, the development of such facilities can significantly add to the City's overall image and appearance.

Interim Open Space

Interim open space contains privately-owned land which is vacant or used for agricultural production. Property in this category is designated as interim open space because of the anticipated conversion of these lands to urban development at some future date. As such, Costa Mesa's inventory is in a constant state of flux as vacant parcels are developed and agricultural fields are converted to commercial, industrial or residential uses. Also, portions of this inventory may eventually be allocated for permanent open space use through acquisition or dedication.

Agricultural Fields: A portion of Costa Mesa north of the San Diego Freeway is used for agricultural production. In 1989, approximately 222 acres of land were devoted to active agricultural use. This compares to 540 acres in October 1978 and 890 acres in 1970. Since 1970, the General Plan has anticipated ultimate conversion of the remaining agricultural land to urban development. All of these fields have been designated as Prime Agricultural land by the California Land Conservation Act of 1965.

Small portions of Orange Coast College and Costa Mesa High School are used for agricultural related education programs. The area used for such purposes is included in the educational facilities totals and is not reflected in the total acreage allocated to agricultural production noted in the preceding paragraph.

Vacant Land: Although Costa Mesa's inventory of vacant land is rapidly being depleted through construction activity, the remaining inventory at any point in time provides a source of open space. In 1990 the inventory of vacant land, including the agricultural acreage, was approximately 265 acres (excluding undeveloped parkland). Of this total, 90 acres were designated for ultimate commercial development, 75 acres for industrial development and 100 acres for residential development.

Institutional Open Space and Trails

Costa Mesa is nearly bisected in an east/west direction by a broad belt of public and semi-public uses identified as the Institutional Open Space Corridor. This corridor contains approximately 1,500

acres which extend from the Santa Ana River to Upper Newport Bay. Primary elements of the corridor include the Santa Ana River Greenbelt Trail, Fairview and Talbert and Fairview Regional Park site, Estancia High School, the Costa Mesa Golf and Country Club, Fairview Developmental Center, Orange Coast College, Costa Mesa High School, Davis School, TeWinkle Park, the National Guard Armory, the Orange County Fairgrounds, Civic Center Park, the Civic Center complex, Southern California College and the Santa Ana Country Club. Major uses outside of the City represent potential linkages to extend this corridor through Newport Beach and into Irvine. Key pieces of this potential greenbelt and linkages between the pieces are identified in Figures 17 and 18.

Santa Ana River/Santiago Creek Greenbelt: The Santa Ana River/Santiago Creek Greenbelt, a major regional open space corridor and trail system, forms the western boundary of the Institutional Open Space Corridor. That portion of the greenbelt system within Costa Mesa contains many of the same facilities as the Institutional Open Space Corridor (the Fairview and Talbert Regional Park site, Fairview Park site, Estancia High School, the Costa Mesa Golf and Country Club and Fairview Hospital). Other facilities in the greenbelt include Vista Park, the Mesa Verde Country Club, Suburbia Park and a number of bikeways leading to the Santa Ana River Trail. This trail provides for both bicycle and equestrian use. The entire greenbelt system extends along the Santa Ana River from the Pacific Coast, through Orange County and into Riverside and San Bernardino counties as well as along Santiago Creek through central Orange County.

Fairview Developmental Center: In spite of the intensely developed nature of the interior portion of the 102-acre Fairview Developmental Center, a portion of the property is undeveloped or landscaped for open space usage. Much of the interior open space is available for the Center's use. The large setbacks from all property lines incorporate an off-street bicycle trail which was developed in conjunction with the Harbor Village apartment project in the northeast portion of the site. This trail also extends along the east, north and south edges of the Costa Mesa Golf Course. The trail will eventually connect to the Santa Ana River trail with additional extensions through Fairview Park.

Orange County Fair and Exposition Center: Portions of the 150-acre Orange County Fairgrounds site are not developed with buildings and are used as overflow parking for Costa Mesa High School and Orange Coast College as well as temporary parking for the weekend. Other portions of the Fairgrounds are occupied by the Santa Ana Army Air Base Memorial Gardens, an outdoor amphitheatre and picnic area. An off-street bicycle trail has been constructed on the east and south sides of the site. The 1991 Master Plan for the facility will result in an enhanced edge treatment around the site.

Civic Center: The 9.5-acre Civic Center Complex is occupied by the Police Facility, City Hall, a Fire Station, and Communications Center. Approximately 1.5 acres of the complex are landscaped and devoted to open space use.

National Guard Armory: Although this site is publicly owned, the open space benefits of the site are severely limited because of the large portion allocated to vehicle and equipment storage.

Libraries: While not a part of the Institutional Open Space Corridor, the Mesa Verde Branch Library provides a source of visual open space through generous setbacks from Mesa Verde Drive and Baker Street. The Donald Dungan Branch Library is located within the Lions Park area.

OPPORTUNITIES AND CONSTRAINTS

Land in public ownership and committed to long term open space use provides many positive assets to Costa Mesa. Public parks not only serve the recreational needs of the citizens but also contribute significantly to the visual image and quality of life of the City. These same facilities can contribute to mental and physical well-being by providing aesthetic and inspirational enjoyment. Passive recreation areas or visual open spaces act as a buffer or relief from intense urban settings. To provide the maximum benefits, these facilities should be developed to offer the highest degree of visibility and accessibility. These criteria should be stressed in the evaluation and design of future park sites. The only qualification which applies to these criteria should be to the sensitive habitat and resource conservation areas in the Fairview and Talbert Regional Park site.

Permanent open space areas can have significant positive environmental benefits. Such areas can be used to protect wildlife habitats, provide space for air recharge, preserve historical, cultural and archaeological resources and control development in areas subject to geologic or hydrologic hazards. Certain open space uses within Costa Mesa provide such benefits. As an example, Estancia Park provides the Diego Sepulveda Adobe with the appropriate setting for a landmark of its importance in Costa Mesa's history. Also, the Mesa Verde Country Club and the development of the Fairview Park are compatible land uses for designated flood plains.

In order to reduce the fiscal impacts of providing additional parkland to maintain the established acre per population ratio, the City requires dedication of land for future parks or the payment of fees to acquire such land from residential subdivisions under authority of the Quimby Act. While reducing initial acquisition costs for the City, such requirements can be passed on to consumers in the form of higher housing costs.

The land dedication and fee amount requirements are revised periodically to accommodate shifts in per household population sizes (as determined by census counts) and land values (as determined by periodic appraisal reports). Extension of the program to nonsubdivided residential developments will also provide additional means to ensure that the City's parkland inventory keeps pace with increased demand.

REGIONAL GREENBELT LINKAGES

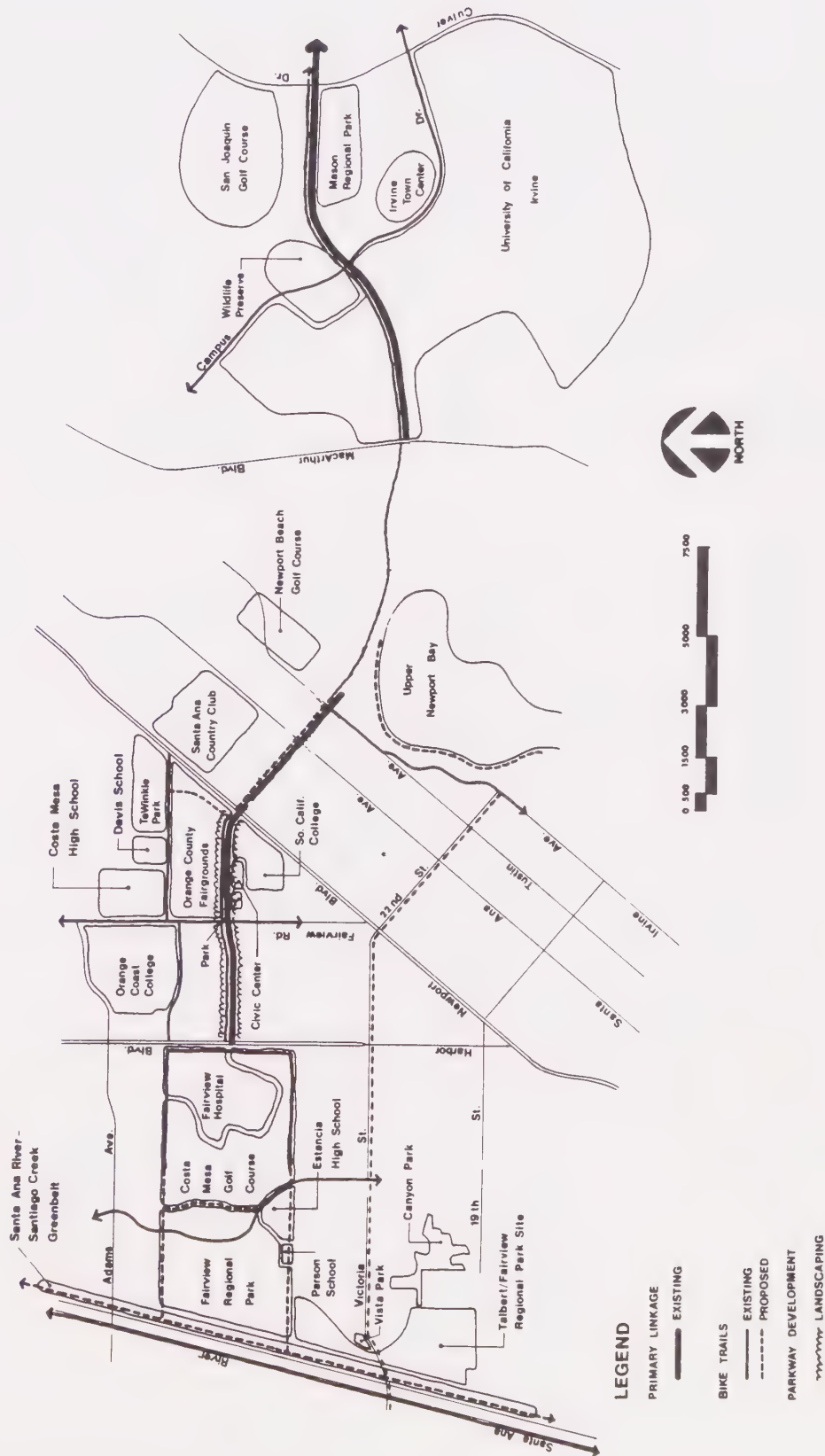


FIGURE 17



POTENTIAL REGIONAL GREENBELT

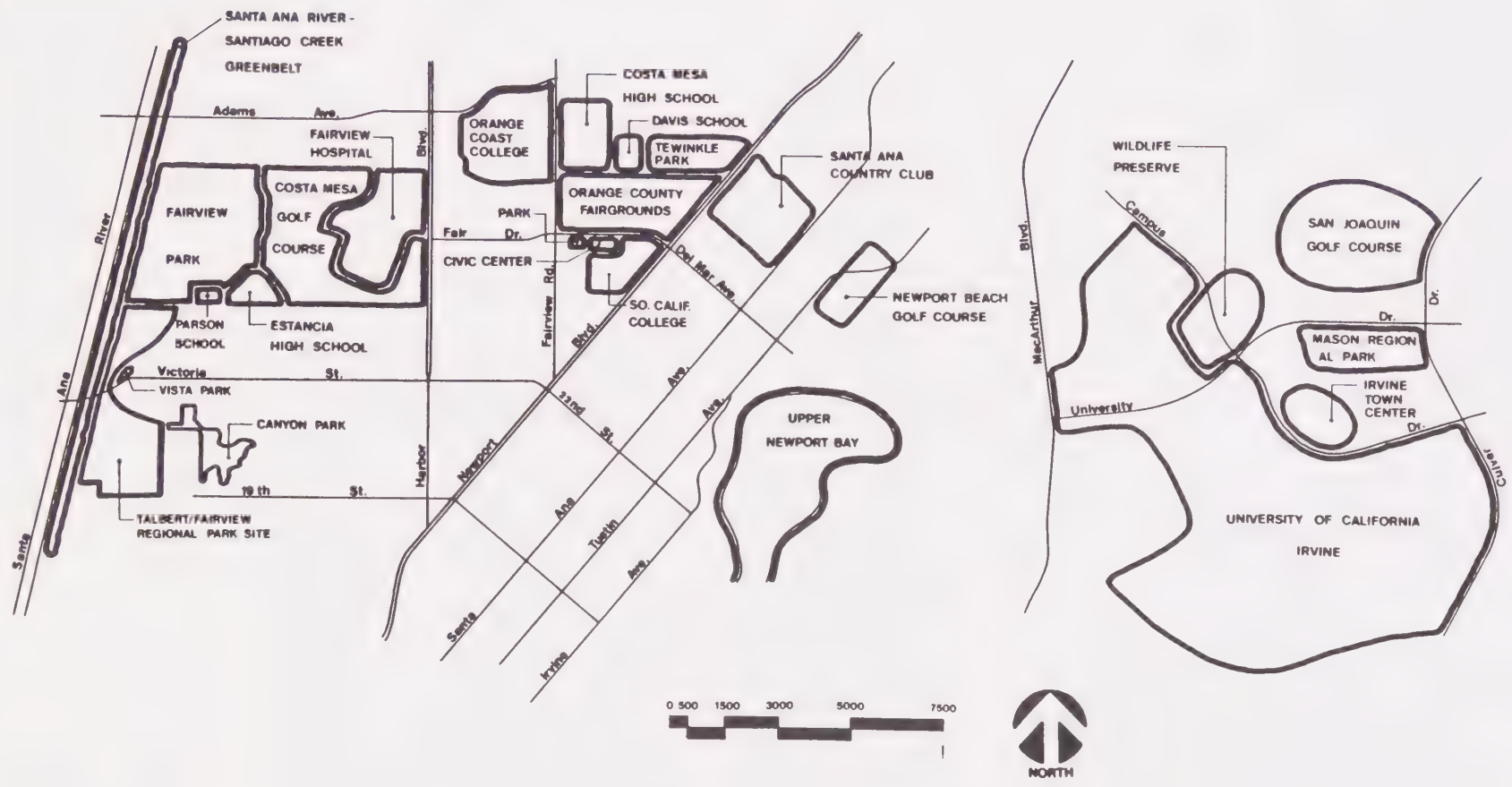


FIGURE 18



One method to relieve the increased economic burdens of acquiring and maintaining a viable park network may be to place greater responsibility on the private market to supply needed recreational facilities in new developments. To implement this action, the City may waive the park fee or dedication requirement for new developments if more than the required open space or certain recreational facilities are provided in the development to meet the needs of the prospective tenants. Private tennis, racquetball or athletic clubs may be encouraged to provide needed recreational facilities. Also, other forms of open space preservation may be employed to provide additional parkland. An open space easement, has been used to provide an approximate 3-acre park in the Town Center and a similar sized water amenity in The Lakes mixed use project in north Costa Mesa. This has the advantage of eliminating public acquisition costs and reducing the tax burden of the underlying property owner. Other easements may be employed to preserve scenic vistas and limit development in flood areas or wildlife habitats. Alternatives such as these may be employed to provide the east side with sufficient park and recreation facilities because of the limited amount of parcels available for park land development.

While the public park system provides long term, continuing benefits, the inventory of privately-owned open space provides important temporary benefits. Effective management and regulation of agricultural and vacant parcels can be used to control and guide development while also providing temporary visual relief. However, because of the surrounding urban development and relatively limited amount of agricultural land in active production, the conversion of Costa Mesa's agricultural land to urban development is expected to occur in the near future.

These interim benefits must be balanced with the liabilities of open space uses. For example, agricultural production in proximity to residential developments results in conflicts associated with dust, pesticides, fertilizers, and rotting of unharvested crops. Also, agricultural fields are subject to vandalism and plant damage from nearby residents. Dust from agricultural and vacant fields is a major source of particulate air pollution. Undeveloped land can also be overgrown with weeds and grasses which, if left unattended, can present significant fire hazards.

Fire hazards associated with overgrown, vacant or underdeveloped parcels can be controlled through periodic disking or plowing under of weeds and grasses. In large open areas such as the Fairview Park site, the cutting of firebreaks may be required to protect adjacent uses until the park is fully improved.

The Institutional Open Space Corridor represents a valuable resource which has yet to be tapped. Although the corridor has the potential of becoming a part of a major multi-purpose greenbelt of regional significance, current development does not project a positive, unified image. This situation is the result of individual development by the various agencies without the benefit of strong physical linkages, common design elements, or inter-agency cooperation.

A primary factor which detracts from the present image of the corridor is the visual appearance of the streetscapes within the corridor. The absence of streetscape improvements along the Harbor Boulevard frontage of the golf course and a portion of the Fairview Development Center detract from the corridor. Landscaping in the medians along Fairview Road and Harbor Boulevard, as well as on-site landscaping on the Orange Coast College campus are examples of public improvements which enhance and unify the corridor. Additional programs of this nature are needed to further unify the separate elements into a recognizable district.

An important linking element to the corridor is an identifiable "spine" or primary linkage between the individual elements. The sensitive habitat concerns regarding Upper Newport Bay preclude a major roadway linkage through the corridor. However, the possibility of bicycle trail or pedestrian linkages remains and excellent opportunity.

Major educational facilities and recreational opportunities within the greenbelt create a high demand for bicycle-related facilities. These demands will be met by an extensive bicycle trail network. As can be seen on Figure 18, a number of these trails are already in existence.

Implementation of the regional greenbelt system will require a coordinated effort on behalf of a number of governmental agencies. This coordination is needed to ensure conformity and to resolve existing potential conflicts.

ACTION PROGRAM

Preservation of existing open space resources require a comprehensive and coordinated approach. For this reason, Section 65564 of the Government Code requires the inclusion of an action program in all open space plans.

Implementation of the open space plan is largely guided by the goals, objectives and policies contained in the General Plan. These broad policy statements provide direction for the development of more detailed action programs. Key programs include:

1. General Plan Land Use Element

In addition to providing overall policy direction, the Land Use Element of the General Plan preserves existing open space resources by designating such uses for Public and Semi-Public Use. This broad land use category is further refined by site-specific designations reflecting the actual use of the property (i.e., park, institutional or resource conservation).

2. Zoning Ordinance

Further regulation of open space resources is provided by the zoning ordinance. All lands designated for Public and Semi-Public Use by the Land Use Element are zoned I & R (Institutional and Recreational) or I & R-S (Institutional and Recreational -

Schools). The use of the I & R zones also seek to implement Section 65910 of the Government Code which requires cities to establish open space zoning districts. The zoning ordinance also contributes to the overall open space inventory by requiring minimum open space standards in all residential zoning districts and minimum landscape standards in nonresidential districts.

3. Park Dedication and In-Lieu Park and Recreation Fee Ordinance

As authorized by the Quimby Act, the City has adopted and implements an ordinance to require the dedication of land for park sites or the payment of fees in lieu of dedication to acquire or rehabilitate park sites in conjunction with new residential subdivisions. The initial ordinance and fee program were adopted in the early 1970's and have been amended and updated periodically. During the 1990 update of the General Plan, the City Council directed staff to explore the expansion of this program to include nonsubdivided residential developments.

4. Capital Improvement Program

The most direct action program may be the City's Capital Improvement Program. Adopted as a part of the City budget, the Capital Improvement Program plans and allocates funds to acquire, develop and rehabilitate parks within the community.

5. Master Plan of Parks and Recreation

In early 1991, the City Council directed staff to update the Master Plan of Parks and Recreation. The primary purpose of this update is to develop a detailed and comprehensive plan to address the long term park and recreational needs of the community. The plan will serve as the basis for more specific, long range action programs to implement the open space plan.

6. Intergovernmental Cooperation

The large amount of publicly owned land in Costa Mesa requires close coordination to ensure that existing land used for open space or recreational purposes are maintained. Cooperation is also required to ensure that future improvements to public lands are compatible with adjacent private uses. Examples of the need for this cooperation are the current plans for the improvement of the Fairview and Talbert Regional Park by the County of Orange; the Master Plan for the Orange County Fair and Exposition Center by the Fair Board; the possible school closures or sale of surplus land by the Newport-Mesa School District and Coast Community College District; and the continued use and development of the Fairview Development Center. Intergovernmental coordination is also necessary to realize the benefits of the regional Institutional Open Space Corridor.

GOALS, OBJECTIVES AND POLICIES

The goals, objectives, and policies of the Costa Mesa General Plan that address open space are as follows:

GOAL I: ENVIRONMENTAL QUALITY AND RESOURCE CONSERVATION

It is the goal of the City of Costa Mesa to provide its citizens with a high quality environment through the development and conservation of resources, including land, water, minerals, wildlife, and vegetation; the protection of areas of unique natural beauty and historical, social, cultural, and scientific interest; the integration of natural features into the man-made environment; and the preservation of open space.

Objective I-A: Preserve the City's open space lands and provide additional community and neighborhood parkland in conjunction with future population increases to provide adequate recreational opportunities and relief from the pressures of urban development.

1. Until the results of the 1990 Federal census are available, provide a minimum of 4.5 acres of permanent public open space (consisting of 3 acres of neighborhood and community parks and 1.5 acres in school yards) for every 1000 residents.
2. Conduct a comprehensive parkland study after the results of the 1990 Federal census are available in order to adjust the ratio of neighborhood and community park acreage to the total population to reflect the census. Unless State law is modified, the amount of neighborhood and community parks shall not be reduced below three acres and shall not exceed five acres per 1000 residents.
3. Conduct a comprehensive parkland study to identify future park sites in the City and acquisition mechanisms to meet the needs of future population increases. The acquisition mechanisms can include lease or cooperative agreements with other public agencies regarding surplus land, dedication or easements in conjunction with planned commercial, industrial or mixed use development, acquisition of land by fee, development of City-owned surplus property as parkland, or other mechanisms.
4. Provide maximum visibility and accessibility for future public parks by locating such facilities adjacent to existing or planned public streets.
5. Encourage the acquisition of land for neighborhood or community parks for active recreational use.
6. To the extent legally possible, require other local, regional, State, or Federal agencies to maintain and adequate inventory of open space lands within Costa Mesa.

7. Review alternative means to acquire open space lands to reduce the fiscal impact of providing such facilities.
8. Encourage, through development rights transfers or other incentives, the development of private permanent open space, and recreation facilities to meet the needs of the City's residents.
9. Encourage, through open space easements, development rights transfers or acquisition, zoning regulations, or other incentives, the long-term maintenance of existing open space lands.
10. Require, through development standards and planned development review criteria, the integration of open space uses (plazas, courtyards, landscaped areas, etc.) into major commercial and industrial development or redevelopment projects.
11. Continue to require, through development standards, the integration of open space and recreational uses and facilities into all multiple-family residential projects.
12. Review the possibility of incorporating an Arts in Public Places program in City parks.
13. Strongly encourage improved maintenance of City and school district facilities used for recreation and organized sports activities. Strongly support recreation programs that benefit the youth of the community.
14. Retain all existing open space in Lions Park.
152. Strongly encourage protection and preservation of existing but underutilized school sites for future recreational, social or educational uses.

REFERENCES

1. General Plan (City of Costa Mesa), 1981
2. Draft Fairview and Talbert Regional Park Master Plan, County of Orange, 1991
3. Final Environmental Impact Report for the Draft Updated Master Plan for the Orange County Fair and Exposition Center, 32nd District Agricultural Association, 1991
4. Persons and Organizations Consulted:

David Alkema, Park Superintendent, City of Costa Mesa
Newport-Mesa Unified School District

Geology

GEOLOGY

Knowledge and awareness of a community's underlying geologic structure and locational proximity to major fault systems are critical for many land use and development issues in a seismically active area such as Southern California. This is especially true for Costa Mesa because the City lies astride a portion of one of the most important geologic features in the region; the Newport-Inglewood structural zone. Movement within this zone was responsible for the 1933 Long Beach earthquake. The epicenter was located 3.5 miles offshore in the Costa Mesa-Newport Beach area.

The State Legislature recognized the importance of geotechnical inputs into the planning process by requiring all cities and counties to include Safety Elements in their General Plan (Government Code Section 65302(g)). This element assesses the geologic and seismic character of Costa Mesa.

GEOLOGIC SETTING

Geologic Structure

Costa Mesa lies adjacent to the Downey and Tustin portion of the Coastal Plain (Figure 19) where sedimentary and volcanic rocks in the subsurface attain great thickness. These deposits are composed mainly of volcanic, marine and nonmarine sedimentary rocks overlying a basement complex of granitic and metamorphic rock. The plain is immediately underlain by a thick sequence of alluvial sediments, which overlie the older sedimentary and volcanic rocks.

The main development of Costa Mesa is primarily on an uplifted mesa (Newport Mesa) bounded on the west, south, and east by steep cliffs (Figure 20). Newport Mesa slopes gently northward from an elevation of 80 to 110 feet above sea level at the southern crest of the mesa to less than 40 feet above sea level at the northern boundary of the City. Oil company data indicate that underlying strata, including the San Pedro and Pico Formations, also dip gently to the north (Figure 21). Approximately 80 percent of the City is located on this mesa.

Newport Mesa is the most southerly of a series of discontinuous low hills and plains that extend along the Newport-Inglewood structural zone from the Santa Monica Mountains southeastward to Newport Beach. These topographic features are inferred from both the physiographic and stratigraphic evidence to be essentially contemporaneous segments of the Sangamon Age (120,000 years Before Present) deformed lower terrace of the Palos Verdes Hills.

This portion of southern California is characterized by active faults, structural zones, and occasionally destructive earthquakes. Producing groundwater zones (aquifers) lie at various depths (40 to 100 feet) below the ground surface while perched water (less than 40 feet) is present in some portions of the City.

Stratigraphy

A summary of the subsurface stratigraphy and lithology is presented in Table 17. Intermittent uplift, faulting and folding during late Tertiary time has resulted in several major unconformities (buried erosion surfaces separating two rock masses) and a relatively thin section of post-Miocene strata, only about 700 feet thick, compared with more than 15,000 feet in the center of the Los Angeles basin.

Lithologic descriptions of surficial geologic units are included on the Geologic Map (Figure 20).

Soil Conditions

Soils within Costa Mesa are variable, ranging from a predominance of clay with some silty sand in the northern half of the City to a predominance of silty sand with some sand and clay in the southern half (Figure 22). These generalized units were derived from a more detailed soils map contained in the soil survey of Orange County. General engineering properties of these soils are shown on Table 18. Physical and chemical properties of the soils are indicated on Table 19. The soil types indicated on Figure 22 are the surficial units (upper 5 feet).

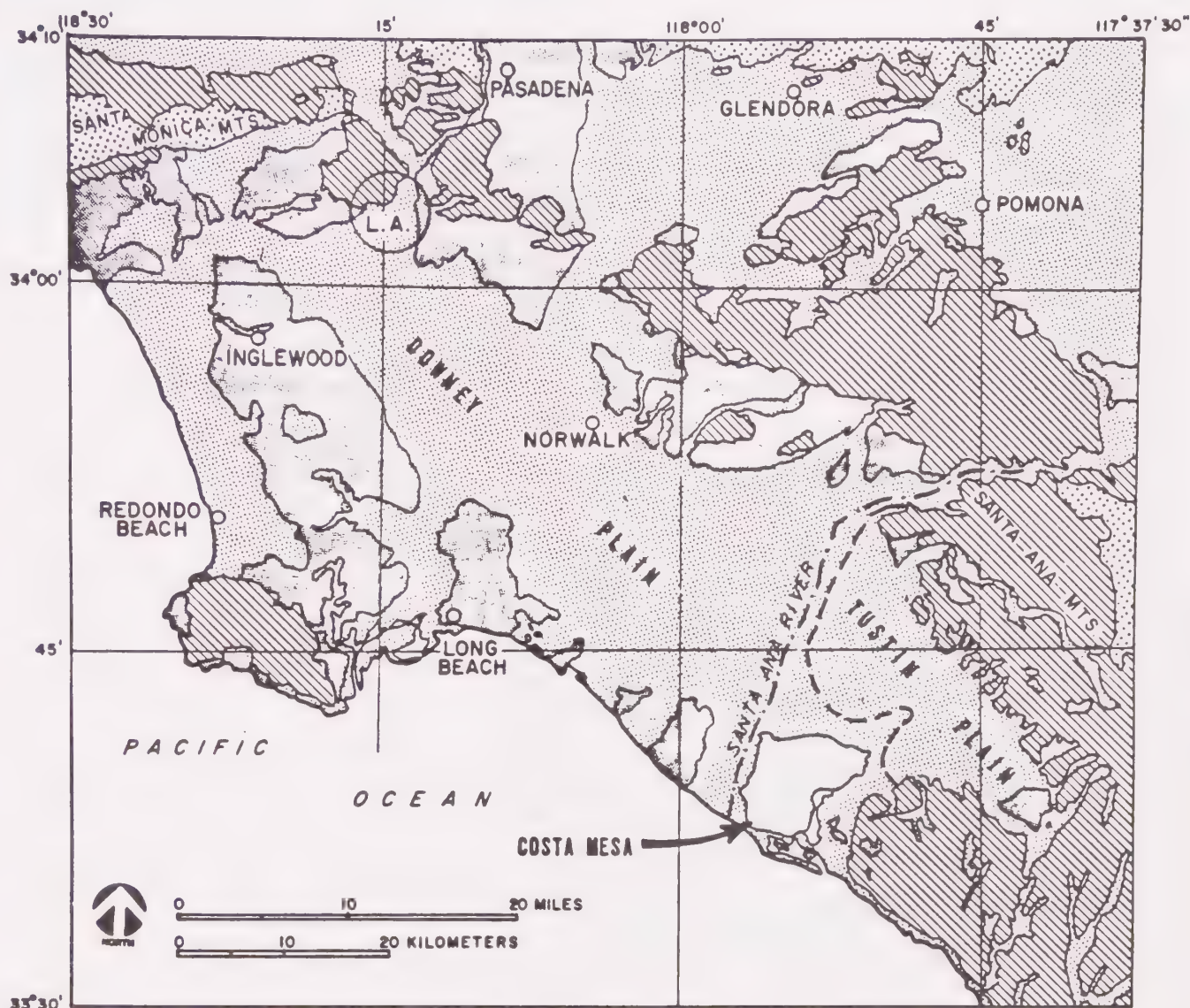
Groundwater Conditions

The City of Costa Mesa lies on the Coastal Plain, which has numerous groundwater basins defined by topographic, geologic, and hydrologic boundaries as noted in the Hydrology section. Water is found 1) perched within Holocene deposits, and 2) in shallow to deep aquifers of the Pleistocene San Pedro and Pliocene Pico Formations (Figure 21).

Groundwater occurs in semi- to moderately-consolidated sand, gravel, and silt occurring in aquifers extending from approximately 40 to over 2,500 feet beneath the ground surface in Costa Mesa. Depths to the uppermost aquifer vary throughout the City from approximately 40 feet below the ground surface in the northern portion to over 100 feet near the coast. Groundwater is present at depths of less than 40 feet along the Santa Ana River. The Newport-Inglewood zone acts as an effective barrier to groundwater flow, offsetting and truncating many of the aquifers in Pleistocene materials.

Perched Water Conditions

Perched water results where a smaller water-bearing unit is separated from the underlying main groundwater body by impermeable or unsaturated layers. Although perched water conditions usually extend over a relatively small area, the Costa Mesa groundwater data are too poor to determine with certainty the depth, extent, and location of perched conditions within the City. As such, site-specific investigations are necessary for major new developments to locate and evaluate the condition.



EXPLANATION

IX Quaternary alluvium, dune sand and landslide areas

VII Tertiary sedimentary rocks and volcanics

VIII Quaternary consolidated deposits

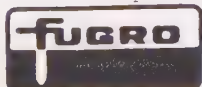
VI Granitic rocks and Mesozoic sedimentary and metamorphic rocks

NOTE:

Roman numerals indicate probable maximum intensity. (Modified Mercalli scale for each unit)

REGIONAL GEOLOGY
AND
MAXIMUM INTENSITIES

FIGURE 19



REFERENCE: Barrows, 1974; Richter, 1958



GEOLOGIC MAP



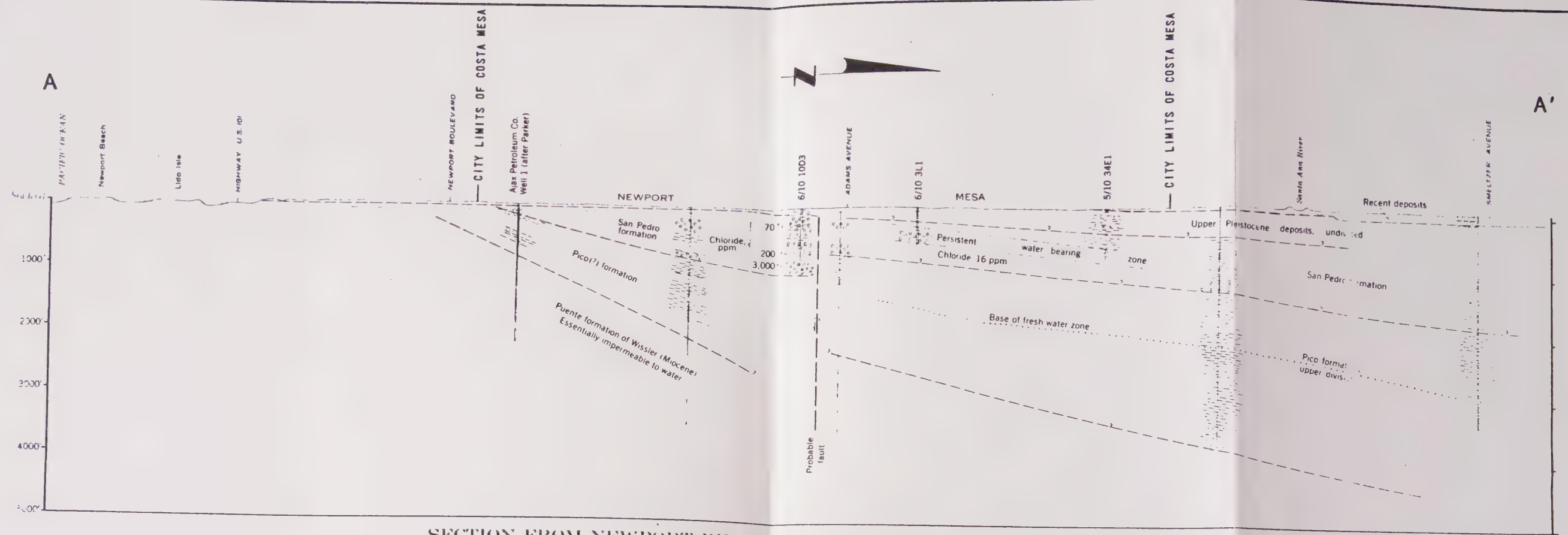
GEOLOGIC UNITS

- Qac ALLUVIAL AND COLLUVIAL MATERIALS, INCLUDING OLDER ALLUVIUM AND SLOPE WASH. PRIMARILY GRAVEL, SAND AND SILT.
- Qsp SAN PEDRO FORMATION - MARINE SILTSTONE AND PEBBLE CONGLOMERATE.
- Qac / Qtm THIN DEPOSITS OF ALLUVIAL AND COLLUVIAL MATERIAL OVERLYING MARINE TERRACE DEPOSITS CONSISTING OF GRAVEL, SAND AND SILT. POORLY TO MODERATELY CONSOLIDATED.
- Tn NIGUEL FORMATION - MARINE SANDSTONE WITH INTERBEDDED SILTSTONE AND BASAL CONGLOMERATE.
- Tcs CAPISTRANO FORMATION - MARINE SILTSTONE AND MUDSTONE.
- Tm MONTEREY FORMATION - MARINE SHALE, SILTSTONE, SANDSTONE AND LIMESTONE.
- - - LOCATION OF BURIED TRACES OF THE NEWPORT-INGLEWOOD STRUCTURAL ZONE.
- LOCATION OF OIL DEPOSITS

COSTA MESA GENERAL PLAN

FIGURE 20





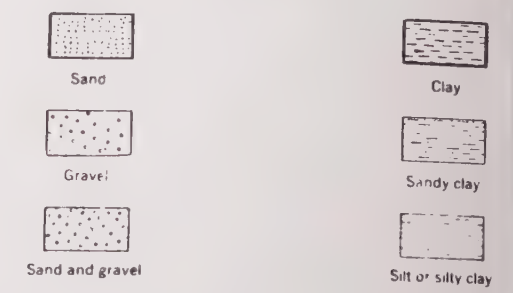
SYMBOLS

6/10-1003 Water well number (see reference for further data)
 ppm Water quality in parts per million



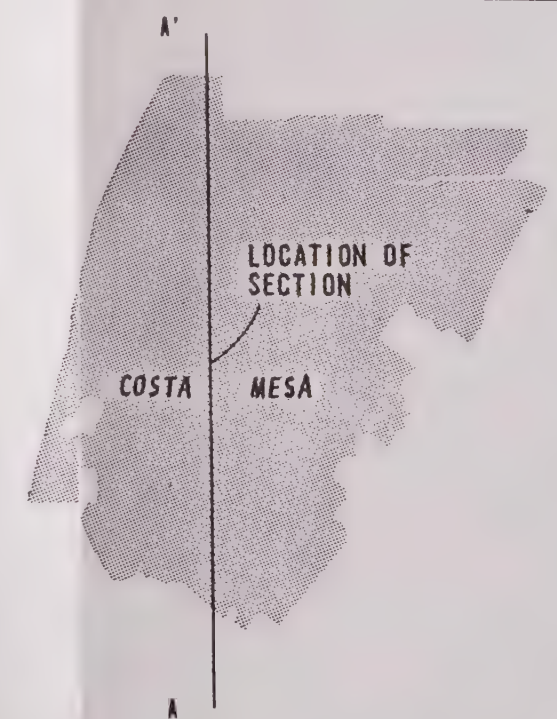
VERTICAL EXAGGERATION 2X

LITHOLOGIC UNITS



Unidentified vertical lines in section represent position of electric logs used for interpretation of lithology

GEOLOGIC SECTION THROUGH COSTA MESA



COSTA MESA GENERAL PLAN

FIGURE 21



Table 17

STRATIGRAPHY AND LITHOLOGY - COSTA MESA AREA

<u>Geologic Map Symbol</u>	<u>Series</u>	<u>Formation</u>	<u>Stage</u>	<u>Division</u>	<u>Thickness (feet)</u>	<u>Lithology</u>
Qac	Recent	Alluvium and Colluvium (Unconformity)			0 - 20	Silt, sand and gravel, loosely consolidated
Qtm	Pleistocene	Marine Terrace			0 - 50	Silt, sand and gravel, poorly to moderately consolidated
Qsp	Pleistocene	San Pedro (Unconformity)			200	Sand reddish-brown, silty, poorly consolidated; siltstone; gravel
Tn Tcs Tm	Pleistocene	Niguel/Pico ₂ Capistrano Monterey (Unconformity)			500	Sand, gray, medium- to coarse-grained, friable; shale, brown, soft, with thin calcareous streaks
Not Exposed at surface	Upper Miocene	Monterey/ Puente ₂ (Unconformity)	Delmontian	A	800	Sand, gray, fine- to coarse-grained, friable, micaceous; shale, brownish-gray, massive, silty; shale, laminated with thin silt seams containing abundant forams.
				B	500	
				C	800	
			Mohnian	-- D --	3,000	
				E		
	Middle Miocene	Topanga	Relizian?		1,400+	Shale, black, siliceous; sand, fine- to medium-grained, indurated.

1. Indicates geologic formations exposed at surface.

2. Formations separated by slash mark are generally considered contemporaneous in age.

SOIL TYPES



SOIL UNITS

PT	PEAT
CL	CLAY
SM-ML	SILTY SAND TO SANDY SILT
SP-SM	SAND TO SILTY SAND
SM	SILTY SAND

FIGURE 22



Table 18

ENGINEERING PROPERTIES OF SOILS

Soil Type	Average Depth (Inches)	Classification		Percent Greater Than 3 Inches	Percent Passing Sieve No.				Liquid Limit Percent	Plasticity Index
		Unified	AASHTO		4	10	40	200		
clay	0-65	CL, CH	A - 6 A - 7	0	100	95-100	80-100	65-100	25-70	10-50
sandy silt- silty sand	0-31	ML, SM	A - 4 A - 2	0	90-100	80-100	70-95	30-40	10-40	NP-1
silty sand	0-65	SM	A - 2 A - 4	0	95-100	95-100	55-85	25-55	10-30	NP-10
silty sand- sand	0-60	SM, SP	A - 2	0	100	100	50-75	05-30	5	NP

Table 19

PHYSICAL AND CHEMICAL PROPERTIES OF SOILS

Soil Type	Permeability (in/hr)	Water Capacity (in/in)	Soil Reaction (pH)	Salinity (Mmhos/cm)	Shrink Swell Potential	Corrosion Risk		Erosion Factors	
						Uncoated Steel	Concrete	K	T
clay	0.06-0.6	0.13-0.22	6.1-9.0	2	moderate to high	moderate to high	low to moderate	0.24-0.43	2 - 5
sandy silt- silty sand	2.00-6.0	0.11-0.17	5.6-6.5	2	low	moderate	moderate	0.15	2
silty sand	2.00-6.0	0.09-0.16	5.1-8.4	2-4	low	low to high	low to moderate	0.24-0.32	2 - 5
silty sand- sand	0.6-20	0.06-0.11	5.6-8.4	2	low	low to high	low	0.10-0.17	5

Data compiled from Soil Survey of Orange County, USCS, Forest Service and County of Orange, 1976.

Mineral Resources

Portions of Costa Mesa overlay the Newport (south of 17th Street between Pomona and Westminster Avenues) and the West Newport (west of Whittier Avenue, south of Victoria Street) Oil Fields as indicated on Figure 20. Currently the only active oil wells in Costa Mesa operate in the West Newport Field west of Whittier Avenue between 17th and 19th Streets. These wells produce a relatively low quality crude oil and are expected to remain in operation through the 1990's.

A mineral water hot spring was once located east of Harbor Boulevard near Merrimac Way (Figure 20). At the turn of the century, the Fairview Hotel and Bath House were developed to take advantage of this resource. However, after an earthquake in 1918, surface water flow was cut off and the hotel resort was removed two years later.

Peat deposits are located adjacent to the Santa Ana River and in the vicinity of Upper Newport Bay (Figure 22). Although peat, partly decayed plant material found in ancient swamps, is commonly mined, dried and used for fuel, the size of the deposits in Costa Mesa are not sufficient to justify extraction. However, peat does provide an unstable base for construction and must be removed prior to development.

In recent years, the Canyon Park site was used as a borrow pit (Figure 22) for construction-related fill material. This pit contains low-value material which is widely available. The City's purchase and private development of this area as a park has precluded further excavation.

Geologic Effects on Urban Improvements

The specific characteristics of the City's underlying soil conditions have direct impacts on the design and construction of all buildings, roads, or other physical improvements. Although important considerations under "normal" conditions, the geologic foundation is critical during earthquakes because of the ability of certain soils to amplify or reduce the impacts of seismic activity. Specific impacts related to seismically induced activity are discussed in the following section.

Certain soils in Costa Mesa may be considered unstable because of their shrink-swell properties. That is to say that these soils expand or contract in response to the amount of moisture in the soil. The volume of change is influenced by not only the moisture content, but also by the amount of clay that is present. In general, the soil with the greatest content of expansive clay shrinks and swells the most. The clay soils located in central and northern Costa Mesa have moderate to high shrink-swell potential. Other soil types have a low potential (Table 18 and Figure 22).

Other physical and chemical properties of certain soil types impact physical construction built upon a specific soil base. These

properties are noted in Tables 18 and 19 and should be considered in the design of any development.

Continued oil extraction in the southwest portion of the City is not expected to result in any significant impacts. However, upon conversion of this area to the planned residential or industrial development, care must be taken to cap existing wells and stabilize the site for future development.

Peat deposits present unfavorable building conditions and must be removed prior to the construction of permanent structures. Such action was required for single-family tracts developed north of Fairview Park and south of the San Diego Freeway and will be required for the development near MacArthur Boulevard. Continued use of the Mesa Verde Country Club or the planned development of the park site are not impacted by the underlying peat.

Expansive clay soils are a major problem in planning the construction of roads, homes, and other types of structures. Normally, these problems can be overcome by employing appropriate design measures such as grading techniques, engineered footings, and reinforced foundations. However, these precautions generally increase the cost of the structure to a significant degree. Also, as evidenced by reported incidents of damage to residences in north Costa Mesa in 1985, some additional settling may still result in minor cracks in pools, patios or the residence itself.

SEISMICITY

Four major faults or zones which present a seismic hazard for Costa Mesa are: (1) the Newport-Inglewood structural zone, (2) Whittier fault zone, (3) San Andreas fault zone, and (4) San Jacinto fault zone. Other faults with lesser seismic hazard include the El Modeno, Norwalk, Palos Verdes, 4-S Ranch and Aliso faults (Figure VI-E).

The intensity of earthquakes is measured, or expressed, in terms of two scales. One, the Richter Scale, measures the strength of an earthquake, or the strain energy released, as determined by seismographic observations. The second, the Mercalli Intensity Scale, described the intensity in terms of observable impacts as noted in Table 20. Both measurement systems are referenced in the following discussions.

Newport-Inglewood Structural Zone

The Newport-Inglewood structural zone consists of northwesterly trending folded hills and en echelon faults extending over 40 miles from the Santa Monica Mountains to Newport Beach (Figure 23) where it projects offshore for an unknown distance. Pleistocene (11,000 to 2,000,000 years Before Present) and pre-Pleistocene formations are known to be displaced by faults within this zone; however, evidence for Holocene or historic (within the last 11,000 years) surface faulting is not known. The zone is seismically active with numerous recorded earthquakes: The largest and most completely

documented was the Long Beach earthquake of 1933 (6.3M), which resulted in strong shaking in Costa Mesa as well as in other portions of southern California. This and other important earthquakes known to have occurred in the vicinity of this zone in historic time are shown in the following table.

TABLE 21: SELECTED HISTORIC EARTHQUAKES ON NEWPORT-INGLEWOOD STRUCTURAL ZONE

<u>Date</u>	<u>Name</u>	<u>Magnitude</u>	<u>Maximum Modified Mercalli Intensity</u>	<u>Documentation</u>
1933	Long Beach	6.3	IX	Strong shaking, heavy damage, no surface rupture, estimated M.M. intensity in Costa Mesa VII.
1933	Signal Hill	5.4	VI	No surface rupture, moderate shaking, moderate damage.
1961	Orange County	3.2-4.3	No Estimate	Series of 20 shocks, light to moderate shaking, light damage, estimated M.M. intensity in Costa Mesa VI.
1969	Laguna	4.5 (Estimate)	No Estimate	Moderate light shaking, light damage, no surface rupture, estimated M.M. intensity in Costa Mesa IV.

The Newport-Inglewood structural zone is approximately 3.5 miles wide within Costa Mesa. Five northwest trending traces (Figure 23) have been projected through the City based primarily on subsurface data. The main trace, classified on the basis of seismic activity, lies 0.3 miles south of the City limits.

Well records, groundwater elevation maps, and structural contour maps of aquifers provided by the Orange County Water District are among the best available sources of data for detecting any geologic anomalies which may be present within the City or in adjacent areas in the near surface materials. Faults generally show up either as anomalies on these maps or as boundaries offsetting and/or truncating water-bearing geologic units (aquifers). The Newport-Inglewood structural zone acts as an effective barrier to groundwater flow, offsetting and truncating many of the aquifers in Pleistocene materials. Several breaks exist in this barrier, including the Santa Ana gap adjacent to the City at the mouth of the Santa Ana River.

Subsurface movement on preexisting faults in oil fields along the Newport-Inglewood zone has been associated with earthquake activity. However, the historical record and studies conducted at other locations indicate that surface displacements on known faults within the zone have not occurred. Therefore, the probability of surface rupture within Costa Mesa is considered to be low, but cannot be precluded.

Table 20

THE MERCALLI INTENSITY SCALE

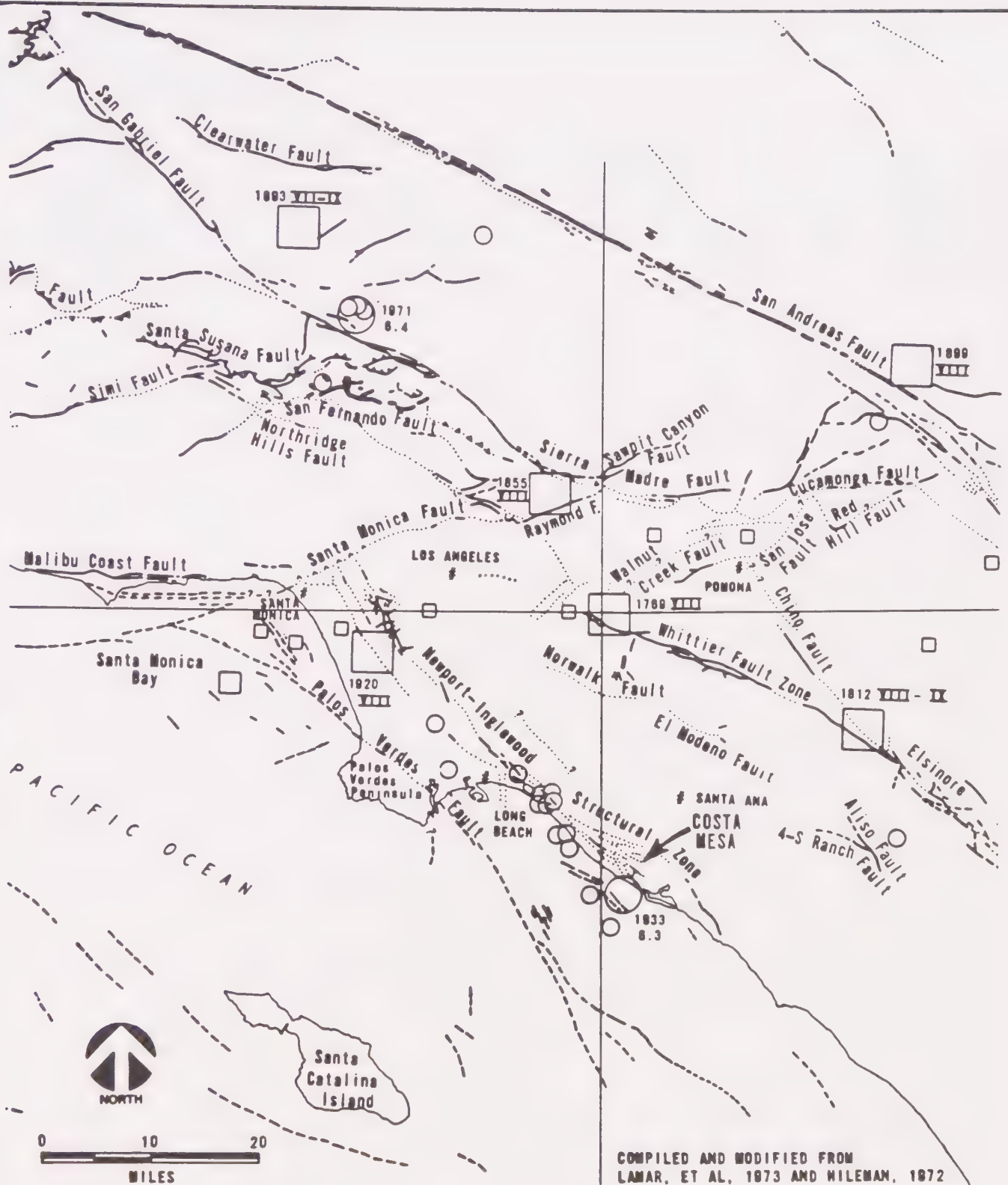
(As modified by Charles F. Richter in 1956 and rearranged)

<i>If most of these effects are observed</i>	<i>then the intensity is:</i>	<i>If most of these effects are observed</i>	<i>then the intensity is:</i>
Earthquake shaking not felt. But people may observe marginal effects of large distance earthquakes without identifying these effects as earthquake-caused. Among them: trees, structures, liquids, bodies of water sway slowly, or doors swing slowly.	I	<i>Effect on people:</i> Difficult to stand. Shaking noticed by auto drivers.	
<i>Effect on people:</i> Shaking felt by those at rest, especially if they are indoors, and by those on upper floors.	II	<i>Other effects:</i> Waves on ponds; water turbid with mud. Small slides and caving in along sand or gravel banks. Large bells ring. Furniture broken. Hanging objects quiver.	VIII
<i>Effect on people:</i> Felt by most people indoors. Some can estimate duration of shaking. But many may not recognize shaking of building as caused by an earthquake; the shaking is like that caused by the passing of light trucks.	III	<i>Structural effects:</i> Masonry D* heavily damaged; Masonry C* damaged, partially collapses in some cases; some damage to Masonry B*; none to Masonry A*. Stucco and some masonry walls fall. Chimneys, factory stacks, monuments, towers, elevated tanks twist or fall. Frame houses moved on foundations if not bolted down; loose panel walls thrown out. Decayed piling broken off.	
<i>Other effects:</i> Hanging objects swing.		<i>Effect on people:</i> General fright. People thrown to ground.	
<i>Structural effects:</i> Windows or doors rattle. Wooden walls and frames creak.	IV	<i>Other effects:</i> Changes in flow or temperature of springs and wells. Cracks in wet ground and on steep slopes. Steering of autos affected. Branches broken from trees.	
<i>Effect on people:</i> Felt by everyone indoors. Many estimate duration of shaking. But they still may not recognize it as caused by an earthquake. The shaking is like that caused by the passing of heavy trucks, though sometimes, instead, people may feel the sensation of a jolt; as if a heavy ball had struck the walls.	V	<i>Structural effects:</i> Masonry D* destroyed; Masonry C* heavily damaged, sometimes with complete collapse; Masonry B* is seriously damaged. General damage to foundations. Frame structures, if not bolted, shifted off foundations. Frames racked. Reservoirs seriously damaged. Underground pipes broken.	IX
<i>Other effects:</i> Hanging objects swing. Standing autos rock. Crockery clashes, dishes rattle or glasses clink.		<i>Effect on people:</i> General Panic.	
<i>Structural effects:</i> Doors close, open or swing. Windows rattle.		<i>Other effects:</i> Conspicuous cracks in ground. In areas of soft ground, sand is ejected through holes and piles up into a small crater, and, in muddy areas, water fountains are formed.	X
<i>Effect on people:</i> Felt by everyone indoors and by most people outdoors. Many now estimate not only the duration of shaking but also its direction and have no doubt as to its cause. Sleepers awakened.		<i>Structural effects:</i> Most masonry and frame structures destroyed along with their foundations. Some well-built wooden structures and bridges destroyed. Serious damage to dams, dikes and embankments. Railroads bent slightly.	
<i>Other effects:</i> Hanging objects swing. Shutters or pictures move. Pendulum clocks stop, start or change rate. Standing autos rock. Crockery clashes, dishes rattle or glasses clink. Liquids disturbed, some spilled. Small unstable objects displaced or upset.	VI	<i>Effect on people:</i> General panic.	
<i>Structural effects:</i> Weak plaster and Masonry D* crack. Windows break. Doors close, open or swing.		<i>Other effects:</i> Large landslides. Water thrown on banks of canals, rivers, lakes, etc. Sand and mud shifted horizontally on beaches and flat land.	XI
<i>Effect on people:</i> Felt by everyone. Many are frightened and run outdoors. People walk unsteadily.		<i>Structural effects:</i> General destruction of buildings. Underground pipelines completely out of service. Railroads bent greatly.	
<i>Other effects:</i> Small church or school bells ring. Pictures thrown off walls, knickknacks and books off shelves. Dishes or glasses broken. Furniture moved or overturned. Trees, bushes shaken visibly, or heard to rustle.	VII	<i>Effect on people:</i> General panic.	
<i>Structural effects:</i> Masonry D* damaged; some cracks in Masonry C*. Weak chimneys break at roof line. Plaster, loose bricks, stones, tiles, cornices, unbraced parapets and architectural ornaments fall. Concrete irrigation ditches damaged.		<i>Other effects:</i> Same as for Intensity X.	
		<i>Structural effects:</i> Damage nearly total, the ultimate catastrophe.	XII
		<i>Other effects:</i> Large rock masses displaced. Lines of sight and level distorted. Objects thrown into air.	
		*Masonry A: Good workmanship and mortar, reinforced, designed to resist lateral forces.	
		Masonry B: Good workmanship and mortar, reinforced.	
		Masonry C: Good workmanship and mortar, unreinforced.	
		Masonry D: Poor workmanship and mortar and weak materials, like adobe.	



The 1933 earthquake damaged nearly every store in downtown Costa Mesa as well as the Costa Mesa Grammar (McNally) School.





COMPILED AND MODIFIED FROM
LAMAR, ET AL, 1973 AND HILEMAN, 1972

FAULT AND EPICENTER LOCATION MAP

FIGURE 23

EPICENTER SYMBOLS

1932-1972

○ 6 ≤ M } INSTRUMENTAL
○ 5 ≤ M < 6 } MAGNITUDE

1789-1932

□ APPROXIMATE LOCATIONS OF EARTHQUAKES
THAT OCCURRED 1789-1932. SIZE OF
SQUARE DENOTES RELATIVE INTENSITY ON
MODIFIED MERCALLI SCALE. DATE AND
INTENSITY SHOWN FOR ALL EVENTS MM VIII



Whittier Fault Zone

The Whittier fault zone has been recognized for over 20 miles from the Whittier Narrows near Whittier, southeasterly to the Santa Ana River where it merges with the southeasterly trending Elsinore fault. Collectively, these two faults combined with smaller faults are known as the Whittier-Elsinore fault zone. The nearest approach to the City of Costa Mesa is approximately 15 miles to the northeast (Figure 23).

The variation in thickness and facies of pre-Pleistocene sedimentary and volcanic rock units on opposite sides of the Whittier-Elsinore fault zone suggests that primarily in late Miocene time as much as 20 miles of right-lateral movement has occurred. Fault scarps in old alluvium offset drainages and as much as 21 feet of soil and colluvium in inferred fault contact with the Puente Formation (late miocene, 10 to 25 million years Before Present) suggest possible activity in the late Pleistocene or Holocene. No major or moderate size earthquakes have occurred along the Whittier fault in historic time; however, microseismic data show clustering of events along its trace demonstrating that it is seismically active.

On October 1, 1987, an earthquake seriously impacted the Whittier area, but did not occur on the Whittier Fault. The 5.9 magnitude earthquake occurred along a previously unidentified fault located in Los Angeles. The fault has since been named the Elysian Hills Fault. On October 4, 1987, a 5.3 magnitude aftershock again shook Whittier. On February 19, 1988, a second major aftershock (5.0 magnitude) shook Whittier. The original earthquake and its aftershocks took their toll on Whittier. Damage is estimated at \$70 million for structures and an additional \$1 million for personal property. Structural damage primarily occurred to pre-1933 unreinforced masonry buildings and wood residential buildings that were not adequately attached to its foundations.

Due to the distance from Costa Mesa and the low earthquake magnitude potential of the Elysian Hills Fault, it is not expected to produce significant levels of ground shaking in Costa Mesa.

San Andreas Fault Zone

The San Andreas is the best known of all California faults due mainly to its known historic seismic activity and destructive capabilities. The center section of the fault ruptured the ground surface in the 1857 Fort Tejon earthquake (8.3± M estimated), causing considerable damage from ground shaking over thousands of square miles. Its closest approach to Costa Mesa is 48 miles, lying on the northeastern flank of the San Bernardino Mountains (Figure 23).

Table 22 summarizes the important events which occurred along the central and southern sections of the San Andreas fault.

TABLE 22: SELECTED HISTORIC EARTHQUAKES
ON THE SAN ANDREAS FAULT

<u>Date</u>	<u>Name</u>	<u>Magnitude</u>	<u>Documentation</u>
1857	Fort Tejon	8.3± (Estimated)	Surface faulting, strong shaking
1868	Imperial County	5.5 (Estimated)	Surface faulting, strong shaking
1916	Kern County	6.0 (Estimated)	Poorly docu- mented, surface faulting

The effects of the above events on Costa Mesa are unknown, but it is estimated that the area was probably subjected to shaking equal in intensity to IV (1916) and to VI (1857) on the Modified Mercalli Scale.

San Jacinto Fault Zone

The San Jacinto fault zone extends over 180 miles from its junction with the San Andreas fault (Figure 23), southeast of Palmdale, to the Colorado River delta. The closest approach of this fault to Costa Mesa is 44 miles. Several damaging historic events have occurred along the San Jacinto fault, the most notable being the Imperial County earthquake of 1940, which generated surface faulting. Although the San Jacinto fault zone is slightly closer to Costa Mesa, the potential levels of ground shaking from the San Andreas fault are higher because of its larger maximum credible earthquake.

SEISMIC HAZARDS

The seismic safety of Costa Mesa bears directly upon the geologic and seismic conditions within the City and surrounding areas as presented in the previous section. The potential seismic hazards which will be considered in this section include: surface faulting, ground shaking, the various types of ground failure, and seismically induced water waves (tsunamis and seiches).

Earthquake Potential

The earthquake potential for Costa Mesa can be expressed in terms of the maximum credible earthquake and the likely earthquake occurrence.

Table 23
FAULTS AND MAXIMUM GROUND ACCELERATIONS

<u>Fault</u>	<u>Distance (Miles)</u>	<u>Maximum Credible (Magnitude)</u>	<u>Activity*</u>	<u>Expected Maximum Accelerations</u>		
				<u>Schnable and Seed (1972)</u>	<u>Housner (1969)</u>	<u>Donovan (1973)</u>
El Modeno	9	5.2 (6;7;8)	5	.06g	.16g	.11g
Norwalk	11	6.25 (2)	5	.25g	.27g	.18g
Newport-Inglewood	0.3	7.0 (5)	3,4,7	.70g	.36g	.52g
Whittier-Elsinore	15	7.6 (3)	3,5	.34g	.39g	.29g
Palos Verdes	12	7.0 (1)	2,4	.33g	.34g	.25g
4-S Ranch	12	5.0 (6;7;8)	5	.04g	.11g	.09g
Aliso	14	6.4 (6;7;8)	5	.22g	.26g	.17g
San Andreas (Central Portion)	48	8.2 (4)	1	.15g	.24g	.15g
San Jacinto	44	7.5 (1;5)	1	.12g	.20g	.11g

References

*ACTIVITY RATING (after Greensfelder, 1975)

- 1) Greensfelder, 1975
- 2) Richter, 1958
- 3) Lamar, and others, 1973
- 4) Allen, and others, 1965
- 5) NOAA, 1973
- 6) Morton, and others, 1973
- 7) Albee and Smith, 1966
- 8) Patwardham, 1975

- 1) Surface rupture during an historic earthquake
- 2) Active aseismic creep
- 3) Alignment of earthquake epicenters and Quaternary displacement
- 4) Late Quaternary displacement
- 5) Quaternary displacement
- 6) Representative fault in tectonic province showing significant seismic activity
- 7) Probable source of a major historic earthquake

Maximum Credible Earthquake

A maximum credible earthquake is the largest seismic event believed possible on a particular fault based upon potential rupture length, geologic evidence for rate and amount of past movement, and the seismic history of the fault. Table 23 summarizes maximum credible earthquakes for the faults studied in this investigation. All active and potentially active faults, as defined by published information, which might produce significant levels of ground shaking within the City of Costa Mesa were included in this table. Estimations of the maximum credible event on each fault were based on published sources where possible (see references, Table 23). However, for those faults for which a maximum earthquake has not been published, an estimation was made based on the previously mentioned criteria. A further discussion of the effects of maximum credible earthquakes and attendant vibratory motion is included in the following section.

Likely Earthquake Occurrence

Another approach used in analyzing the seismic hazard of an area is based on an estimation of likely future earthquake occurrences as extrapolated from instrumental records of seismic activity in the area. The records of seismic activity recorded during the past 40 years collected by the California Institute of Technology are shown on Figure 24. The expectation of earthquakes within a 50-mile radius of Costa Mesa is shown in Table 24. Based upon the recorded seismic activity in the region during the last 40 years it was calculated that the statistical seismicity represented by events of 5.0 magnitude and above which have occurred within a 50-mile radius of the City (approximately 7,900 square miles) is approximately equal to the average for southern California as a whole. This indicates that, on the average, somewhere within a 50-mile radius of Costa Mesa, an earthquake greater than or equal to that suffered in San Fernando, February 9, 1971, will occur every 40 to 50 years.

Ground Shaking

The effects of seismically induced ground shaking are probably the most critical potential seismic hazards to the City of Costa Mesa. The severity of ground shaking at any particular site depends primarily upon: (1) the magnitude of the earthquake, (2) the location of causative fault with respect to the site, and (3) soil and/or rock conditions at the site. Two levels of ground shaking were considered that are associated with: (1) maximum credible earthquakes, and (2) an earthquake with a significant statistical probability of occurrence.

INSTRUMENT SEISMICITY

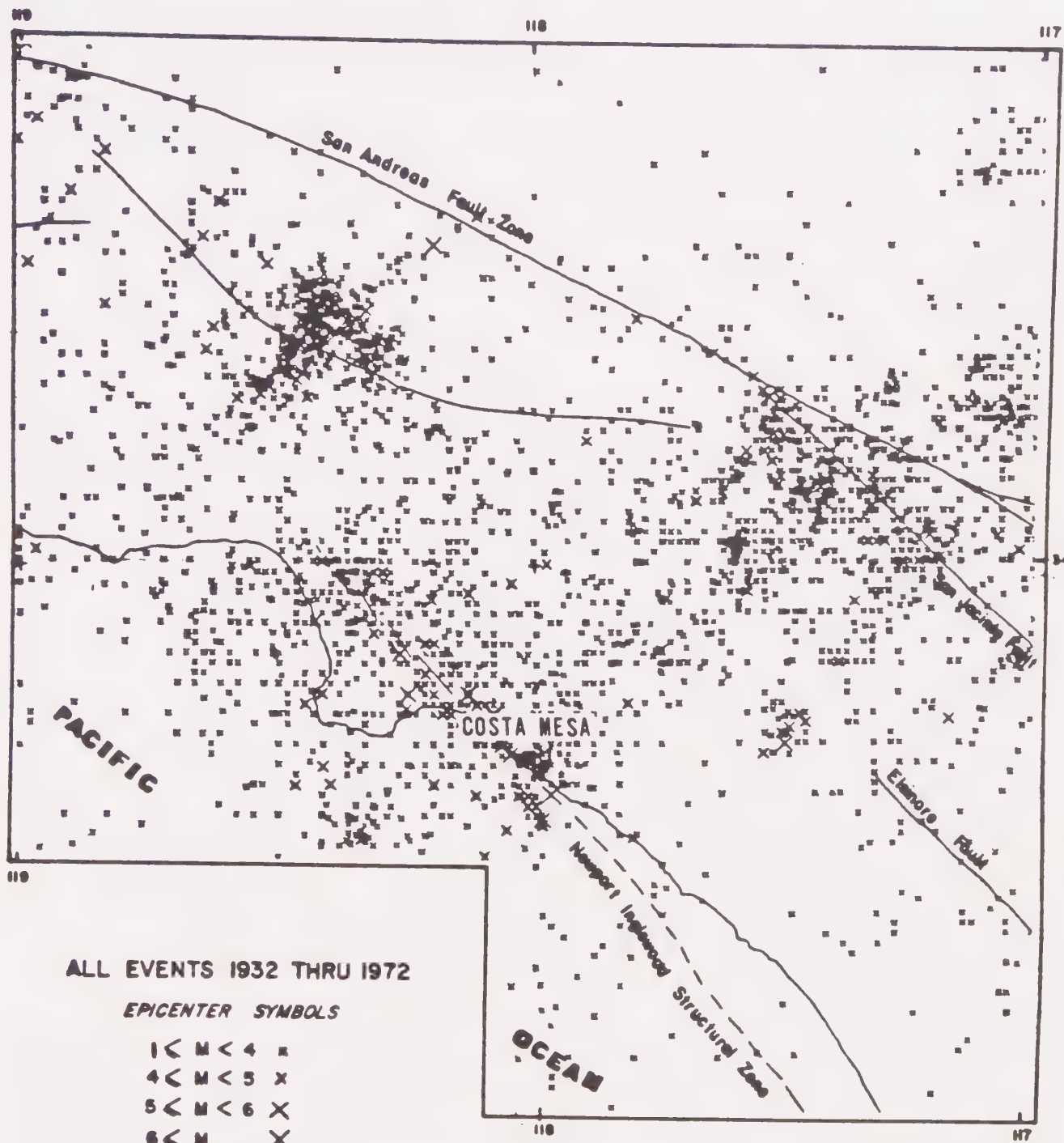


FIGURE 24



TABLE 24

EXPECTED EARTHQUAKES IN THE VICINITY OF COSTA MESA

(Radius of 50 miles = 7,900 square miles)

<u>Magnitude</u>	<u>Number Per 100 Years</u>	<u>Average Recurrence Period In Years</u>	<u>Historic Examples In California</u>
M-5.0	38.00	2.6	Whittier, 1929
M-5.5	14.00	8	Parkfield, 1966
M-6.0	5.70	18	Manix, 1947
M-6.5	2.20	46	San Fernando, 1971
M-7.0	.67	150	Imperial, 1940
M-7.5	.22	450	Arvin-Tehacapi, 1952
M-8.0	.07	1,430	San Francisco, 1906

This table indicates that on the average, a site within a 50-mile radius of Costa Mesa will be subject to an earthquake greater than or equal to that suffered during the San Fernando earthquake on February 9, 1971, every 46 years. These data are based on events instrumentally recorded between 1932 and 1973. Little data pertaining to seismic activity prior to 1932 are available. Because of this limitation, the estimates of expected earthquakes are generalized predictions.

Table 23 summarizes the estimated maximum peak acceleration(s) for the Costa Mesa area corresponding to the listed maximum credible earthquakes. In order to ensure conservatism, three methods of analysis using different attenuation relations were used to determine the estimated peak ground accelerations. These values have been calculated from data collected during earthquakes in California recorded on bedrock or firm alluvium, and are a function of a fault's historic seismicity and total fault length. The peak ground acceleration shown on this table (0.70g) corresponds to the severity of ground shaking that could be expected to occur within the near-field (less than 5 miles) of a large magnitude earthquake in the Los Angeles Basin. This value is only an estimation of the peak acceleration associated with the most severe ground shaking. More appropriately, response spectra should be used for design of structures. Figure 25 shows average elastic response spectra associated with a maximum credible earthquake normalized to 0.70g. These spectra would generally only be used for design to preclude collapse of critical structures such as hospitals, schools, emergency service structures (fire and police stations), and public buildings. The shape of the spectra is considered generally typical of the southern California region and was determined by examination of spectra of individual accelerograms and by making smooth versions of the individual spectra. Detailed analysis was not conducted to evaluate possible amplification or attenuation effects of local soils. The shape of the recommended design spectra and levels of acceleration recommended includes the use of accelerograms recorded on firm sites with alluvial deposition similar to that of the terrace on which most of the City resides. However, in the alluvial plains of the northern portion of Costa Mesa and within the floodplains of the Santa Ana River along the western border of the City, where soft soils exist, site specific investigations will be required to determine the response spectral shape.

The second level of ground shaking considered consisted of shaking resulting from earthquakes which have a significant probability of occurrence. Using the data and records of seismic activity in the past 40 years, some calculations can be made of the probabilities of seismic occurrence within the Los Angeles Basin of which Costa Mesa is a part. The results of these calculations are presented in Figure 26. It can be seen that there is a 50 percent probability that a maximum ground acceleration at the 0.21g level can be expected on the average within any 50-year period. This level of shaking corresponding to the peak acceleration of 0.21g is best represented by response spectra with the shape of that shown in Figure 26, but scaled to a maximum ground acceleration of 0.21g.

For a 100-year time interval, the 50 percent value is 0.27g. For structures with design lives similar to these 50- and 100-year time intervals, the associated acceleration levels have a significant (50 percent) probability of occurrence. Such levels would

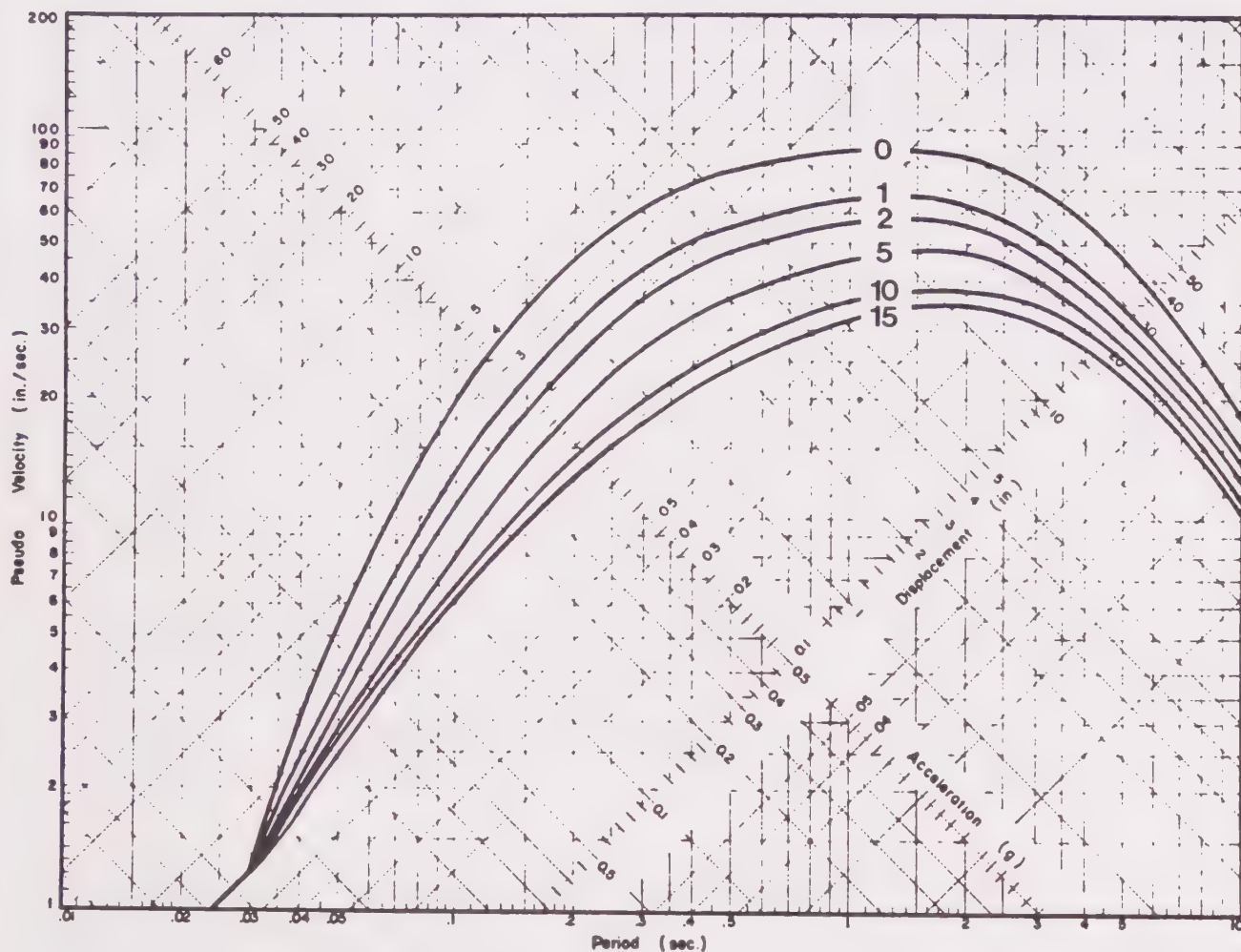
generally be used for the elastic design of critical or essential structures. This elastic design would permit the structure to remain functional up to the design level of shaking.

Other levels of shaking have various probabilities of occurrence (Figure 26); however, the median value of 50 percent is a reasonable basis for elastic design. For higher design levels, the additional cost for design may or may not be justified in view of the importance of the structure, the desire to prevent loss of human life, and the cost of damage repair. Their justification can only be evaluated by the owner in conjunction with the project design engineer.

In addition to the methods discussed above, a third method of determining the likely seismicity of a site is often used. This method is approved by the California Division of Mines and Geology (CDMG) for the preparation of geologic/seismic reports required by regulations of the California Administrative Code for the construction of hospitals. This geologic approach usually involves a qualitative estimate of expected future earthquake occurrence based on one or more of the following:

1. Geologic data concerning rates of fault movement throughout geologic time;
2. An evaluation of the historic earthquake activity of a region or a fault (including preinstrumental reports and instrumentally recorded earthquakes);
3. Consideration and evaluation of the applicability of statistical probability of earthquake occurrence data.

The effects of ground shaking in Costa Mesa will vary considerably depending on the distance of the seismic source to the City and the duration of strong vibratory motion. Ground shaking from distant seismic events (greater than 40 miles), will be of a different nature than events within 10 miles of Costa Mesa. For more distant, large (greater than 7.5M) events such as those that occur on the San Andreas fault, the ground shaking will reflect a predominance of long period waves. This will have minimal effects upon structures less than three stories in height, but will affect flexible structures (typically high-rise buildings, greater than three stories), especially if the natural period of the building should coincide with that of the long period earthquake waves. The resultant amplifications of motions could result in serious damage to high-rise structures. Short period waves, however, are generally very destructive near the epicenter of moderate- and large-magnitude seismic events, causing severe damage predominately to low-rise rigid structures (less than three stories) not specifically designed to resist them.

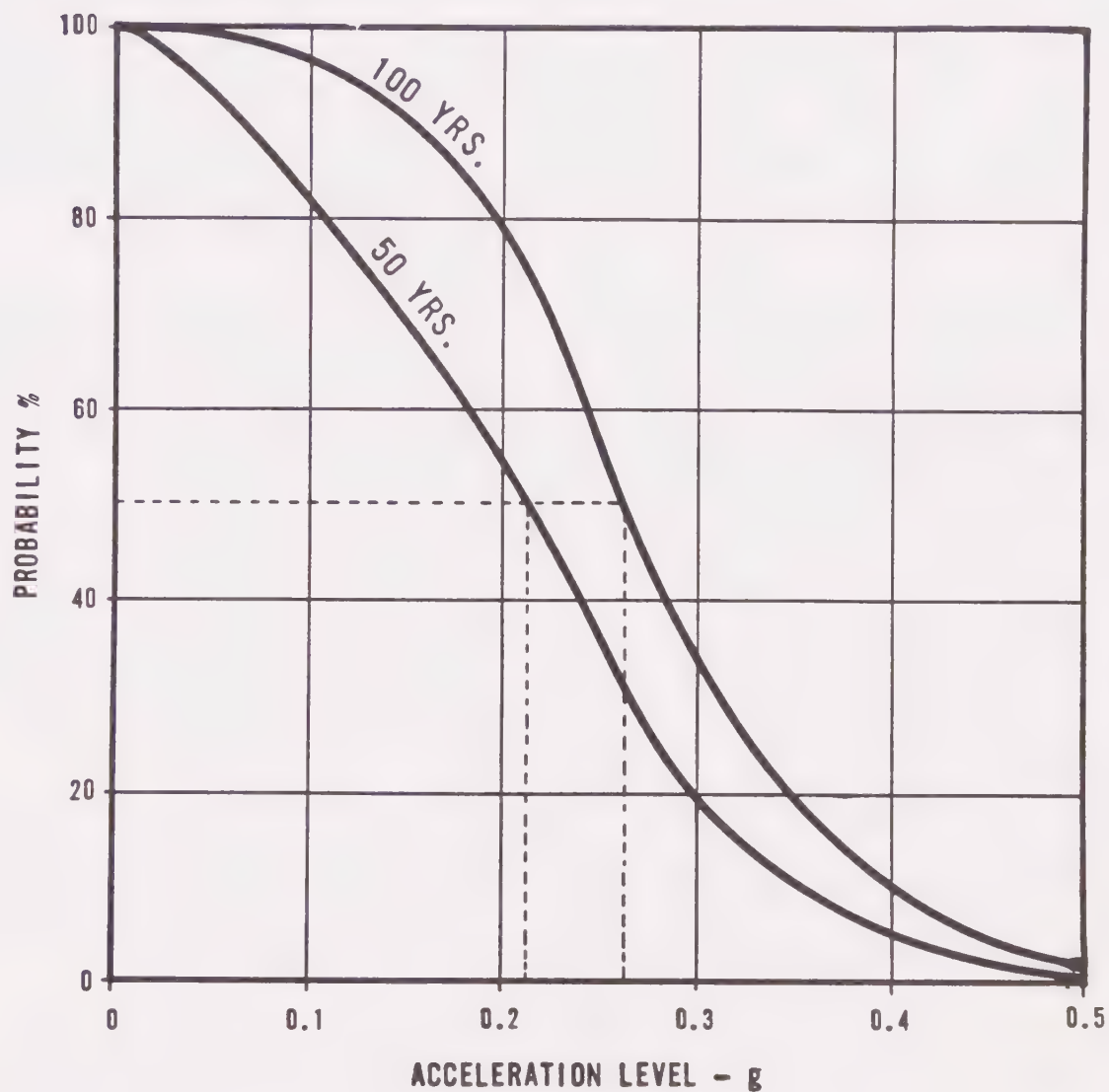


**.70g ELASTIC DESIGN SPECTRA
FOR MAXIMUM CREDIBLE
VIBRATORY GROUND MOTION**

CURVES ARE FOR 0,1,2,5,10 AND 15 % CRITICAL DAMPING

FIGURE 25





Probability of accelerations at a site in the Los Angeles Basin assuming earthquakes occur at random. Graph shows that a site has a 50 percent probability of experiencing vibratory motion of 22g in 50 years.

(Modified after Housner, 1968)

PROBABILITY OF EXCEEDING ACCELERATION
LEVELS IN 50 YRS. AND 100 YRS.
IN L.A. BASIN

FIGURE 26



The duration of strong ground motion is a function of magnitude and distance from the causative fault. It is probably the single most important factor in producing excessive damage to structures. Long duration, reasonably high acceleration, and considerable amplitudes, as would occur from a maximum seismic event on the Newport-Inglewood structural zone, are the combination which would do the most damage to buildings. A distant maximum seismic event on the San Andreas fault would produce less intensity of shaking; however, duration of strong ground motion would be longer resulting in a high potential for damage to high-rise flexible structures.

The California Division of Mines and Geology published in 1988 a planning scenario of what might occur in the event of a major earthquake on the Newport-Inglewood fault zone. The earthquake studied was a magnitude of 7.0, resulting from a subsurface rupture of a 45-mile length of the fault. To illustrate and assess potential earthquake damage, a seismic intensity map was developed. The map indicates that intensities are generally highest at the fault and decrease with distance from the fault, and it also accounts for the distribution of geologic materials that respond differently to ground shaking.

The map indicates for the City of Costa Mesa a shaking intensity that ranges from 8 to 9 on a modified Mercalli scale (see Table 20). The more intense shaking would occur in those areas with moderate to high liquefaction potential shown in Figure 27.

Ground Failure

Failure occurs when stresses applied to the ground exceed the resisting forces of earth materials causing deformation or rupture. Seismically induced ground failure as discussed in this section includes liquefaction, differential compaction, ground lurching, ground cracking, and earthquake induced slope failures.

Liquefaction

Liquefaction of surface or subsurface materials is the result of strong ground shaking of water-saturated, loose to moderately dense sand and silty sand. It occurs because the tendency for compaction of sands during cyclic loading results in progressive increase in pore water pressure if drainage is unable to occur in the time span of the earthquake loading. The result is that water pressure may build up to a point where soil particles can no longer maintain the contact necessary to mobilize soil strength. At this point, the entire mass becomes fluid-like and may lead to loss of foundation stability and slope failures.

Even though Costa Mesa has been subjected to strong ground shaking in the past (e.g., the 1933 Long Beach earthquake), available historic records fail to confirm an instance of liquefaction. However, instances of liquefaction have been reported in the nearby cities of Huntington Beach and Newport Beach. An investigation by the County of Orange indicates that a potential exists for liquefaction in localized sections within the northwest and western portions of the City (Figure 27).

LIQUEFACTION



LIQUEFACTION POTENTIAL

- A** LOW
- B** MODERATE
- C** HIGH



FIGURE 27



This potential is based on:

1. The presence of water-saturated sandy materials within 75 feet of the surface, and evidence for the existence in some areas of near surface perched water conditions;
2. The possible low relative densities of some of these materials;
3. The proximity of Costa Mesa to faults capable of producing sufficiently strong ground shaking to induce liquefaction.

Based on available literature, those portions of the City that are the most susceptible to liquefaction due to one or more conditions discussed above are delineated in Figure 27. In terms of critical or important facilities the liquefaction potential can only be determined through detailed site-specific studies.

Differential Compaction or Settlement

Differential ground settlement resulting from earthquake ground shaking is potentially damaging to structures and buried services. Differential settlement may occur in cohesionless sediments where differences in densities in adjacent materials lead to different degrees of compaction during ground shaking. In the case of saturated cohesionless sediments, post earthquake settlement may occur when excess pore-water pressures generated by the earthquake dissipate. For soft saturated cohesive soils such as the known peat deposits within Costa Mesa, post earthquake differential settlement may also occur (Figure 22). Whereas differential settlement is a potential hazard in Costa Mesa, the significance of the hazard at any particular site may only be determined by soils investigations.

Ground Cracking, Ground Lurching, and Lateral Spreading

Both ground lurching and cracking are secondary features resulting from strong to moderately strong ground shaking and may be associated with liquefaction. Ground cracking usually occurs in near-surface materials, reflecting differential compaction or liquefaction of underlying materials. It has also been known to occur parallel to embankments and unlined stream channels. This can be a serious hazard, particularly for roadway and utility crossings. Potential for ground cracking exists especially in those areas of the City delineated on Figures 22 and 27 to have a moderate to high potential for liquefaction and in regions on known peat deposits.

Ground lurching results when soft, water-saturated surface soils are thrown into undulatory motion. Areas within Costa Mesa occur in those regions indicated by Figure 27 to have a high potential for liquefaction. Ground lurching potential should also be considered for construction of multiple level structures in areas determined to have perched water.

Lateral spreading (a form of landsliding) is limited displacement ground failure often associated with liquefaction. Compact surface materials may slide on a liquefied, or low shear strength layer at shallow depth, moving laterally several feet down slopes of less than two degrees. Lack of adequate subsurface data prohibits delineating areas in Costa Mesa prone to shallow landsliding. Such a hazard may be present where conditions conducive to shallow liquefaction exist or where soils exist along the bluffs adjacent to the Santa Ana River or Newport Bay (Figure 27). Site-specific geotechnical investigations for new development will determine if such potential hazards exist in these areas.

Slope Stability

Seismically related slope stability problems include landslides, rockfalls, mudslides, and avalanches. Photographic terrain analysis of the Costa Mesa region indicates that large scale earth movements have not been a serious problem in the past. Since the City is primarily located on flat to gently sloping terrain (generally less than one percent), the potential for these hazards is remote. However, along the bluffs above the City of Newport Beach and Santa Ana River, small localized landslides were reported following the 1933 Long Beach earthquake. Therefore, a potential exists for earth movements during strong ground shaking along these bluffs which surround the southern half of the City. In recognition of this potential, the City's zoning ordinance requires a 10 foot building setback from the bluff crest. Buildings may locate closer with the approval of a Conditional Use Permit provided that it is demonstrated that the structure does not endanger the stability of the slope, interfere with fire access or detract from the integrity of the slopes.

Surface Faulting

Surface faulting, rupture of the ground surface along a causative fault trace, is associated with the primary movement which produced the seismic event and should not be confused with secondary ground cracking which is simply a result of shaking and may occur at some distance from the causative fault. The likelihood of surface rupture on a given fault can be determined principally by studying the seismic history of the fault and reviewing geologic evidence which suggests historic or prehistoric surface rupture. Many past studies have shown that future surface faulting is most likely to occur where the trace ruptured last, especially if there is evidence of repeated and significant displacement on the trace.

The only active fault zone to occur within the City limits is the Newport-Inglewood structural zone.

Although the Newport-Inglewood structural zone is seismically active, surface faulting does not appear to be a significant potential hazard to the City because:

1. The presence of apparently continuous Pleistocene and Holocene geologic units across the projected trace of the main fault suggests no recent surface fault displacement;
2. Logs of trenches across the most active subsurface trace of this structural zone fail to substantiate continuation of fault rupture to the surface through Holocene sediments;
3. No known historic rupture is associated with the recorded events attributed to the Newport-Inglewood structural zone; and
4. Potential surface ruptures are most likely to occur on the main trace of the structural zone which passes 0.3 miles south of the City.

Seismically Induced Water Waves

Seismically induced water waves include tsunamis, seiches, and waves generated by failure of retaining structures. Tsunamis are generated by earthquake-induced subsea dislocations or landslides which cause large volumes of water to move in the form of ocean waves. Coastline configuration and tidal influx may cause local amplifying effects. A seiche is a low amplitude wave generated in a restricted body of water due to earthquake motions.

Tsunamis

Costa Mesa is three-quarters of a mile inland from the ocean at elevations between approximately 30 to 100 feet above sea level. The southern portion of the City resides on 100-foot bluffs overlooking the City of Newport Beach. The potential for tsunami effects within most of the City is negligible; only those sections of Costa Mesa built over the floodplain of the Santa Ana River could be expected to have a very low potential for tsunami damage (Figure 28).

Seiches


The absence of any large bodies of water within Costa Mesa and the location of high bluffs adjacent to Newport Bay preclude the possibility of damage from seiche effects (Figure 28). This could change should construction of lakes or large reservoirs take place.

Other Induced Water Waves

Flood damage from overtopping or failure of retaining structures upstream from Costa Mesa on the Santa Ana River is considered unlikely. The capacity of the flood control system (of which the Santa Ana River is a part) would accommodate the increased water input of a flood control surge, unless it occurred during peak rain periods when the flood control systems are at maximum capacity. The probability of these compounding effects is remote. However, areas with a potential for surface flooding due to the collapse of Prado and/or Silverado dams, assuming the most adverse conditions, are indicated on Figure 28.

FLOODING & SEISMICALLY INDUCED WAVES



 AREA OF POTENTIAL FLOODING
FROM FAILURE OF PRADO,
SANTIAGO OR VILLA PARK DAMS

 AREA OF POTENTIAL FLOODING
FROM SEICHE OR TSUNAMI

FIGURE 28



ANALYSIS OF POTENTIAL EARTHQUAKE DAMAGE

Analysis of potential damage to existing and future structures in Costa Mesa presented herein is based on documented earthquake effects and past experience. Passage of the 1933 Field Act has led to widely adopted requirements for new construction and modification of many older existing structures in California. Several dozen, mostly low-rise buildings constructed before 1933 and dating back to the early 1900's, exist with post-1933 structures in Costa Mesa.

For evaluation, the categories of structures present in Costa Mesa have been grouped into Types A through H (Table 25), which are related to: (1) the Uniform Building Code (U.B.C.) building types, (2) the date of construction or structural modification, and (3) the number of stories (or equivalent building height). These categories are necessarily broad, since detailed structural analyses are inappropriate for this level of study.

Damage results from adverse effects on the components and contents of a structure caused by excessive response of the structure to an earthquake. Quantification of the cost of earthquake damage has been attempted by others using past earthquake magnitudes, distance relationships, and corresponding building damage reports. Given the small data base available in urban areas such as Costa Mesa, it is felt that a qualitative estimate is more informative and is presented here. The damage analysis of various structural types presented in Table 25 represent an estimation of the general potential for building damage in Costa Mesa and potential damage to specific structures located within the City by the estimated maximum credible events on the Newport-Inglewood and San Andreas fault zones.

Two earthquake conditions were used in both analyses. These are:

1. A nearby maximum credible earthquake event on the Newport-Inglewood structural zone with a Richter magnitude of 7.0 with an estimated maximum Modified Mercalli Intensity (MM) of IX. This could produce a peak ground acceleration of approximately .70g in the City for rock or firm ground conditions.
2. A maximum credible earthquake (8.25) on the San Andreas fault, having a maximum Modified Mercalli Intensity of VI to VIII in Costa Mesa. Such an event at its closest approach to the City corresponds approximately to 0.2 g (Table 23), the level of ground shaking estimated from the statistical probability analysis of seismicity.

The maximum credible earthquake on the Newport-Inglewood structural zone can be taken as the event which will produce the greatest overall damage in Costa Mesa (Table 25). This event, however, has a low probability of occurrence. A smaller event on the Newport-Inglewood structural zone or an earthquake on the other faults delineated in Table 23 could produce a level of shaking in Costa Mesa typical of the more likely level expressed by statistical probability.

Table 25

ANALYSIS OF POTENTIAL DAMAGE (GENERAL.)

Building Types	Ground Shaking (1)		Liquefaction and Ground Shaking (2)		Typical Structures Of These Types	Remarks
	Est. Damage	Est. Damage	Est. Damage	Est. Damage		
	Nearby Earthquake	Distant Earthquake	Nearby Earthquake	Distant Earthquake		
A	Heavy to total	Light to heavy	Heavy to total	Moderate to heavy	Small number of wood frame houses and commercial/industrial buildings.	Due to light loads, liquefaction will have only secondary effects. Damage to unreinforced masonry and concrete could be total.
B	Light to heavy, occasionally total	None to moderate	Moderate to heavy, occasionally total	Light to heavy	Most single- and multi-family units some commercial/industrial buildings.	
C	Heavy to total	Light to heavy	Heavy to total	Light to heavy	Some commercial and industrial buildings, and schools.	Existing structures have been reviewed for critical seismic and structural integrity. Schools of this group have been brought up to Field Act requirements.
D	Moderate to heavy	None to moderate	Moderate to heavy	Light to heavy	Includes some schools, some commercial/industrial facilities.	Compliance with UBC changes of March 1973 regarding roof-wall connections should be implemented.
E	Moderate to heavy	Moderate to heavy	Moderate to heavy, possibly total	Moderate to heavy, possibly total	Large multi-story public, private and governmental structures.	Most damage due to shaking when period of tall building corresponds to long period earthquakes waves.
F	Moderate to heavy	None to light	Moderate to heavy	Light to moderate	Water, sewage, storm drain lines, vaults, valve structures, well-casings.	Liquefaction damage variable. Damage to ground shaking variable dependent upon construction practices
G	Moderate to heavy, possible total	None to heavy	Light to heavy, possibly total	Moderate to heavy, possibly total	405 Freeway, Santa Ana River railroad and street crossings.	Liquefaction damage dependent upon loads and subsurface conditions. Most damage from nearby large events.
H	Light to heavy, occasionally total	None to heavy	Light to heavy, occasionally total	Light to heavy, occasionally total	Tank farms, light structures with multi-centers of gravity.	Damage will be variable.

(1) Damage is dependent upon distance and magnitude of the event, as well as the structural integrity of the building. Because of these variables, the damage estimate is based upon the response of similar structures in past earthquakes and, as such, is listed as a range. A distant event is that generated by the San Andreas fault with a magnitude 8.3. A nearby event is one occurring on the Newport-Inglewood structural zone within approximately 0.3 miles with a magnitude of 7.0

(2) Assuming conditions conducive to liquefaction exist beneath the surface.

ANALYSIS OF POTENTIAL DAMAGE (SPECIFIC)

Building Types	Specific Examples	Ground Shaking (1)		Liquefaction and Ground Shaking (2)		Remarks
		Est. Damage Nearby Earthquake	Est. Damage Distant Earthquake	Est. Damage Nearby Earthquake	Est. Damage Distant Earthquake	
A	Pre-1933 Construction, wood frame residences	Heavy to total	Light to heavy	Heavy to total	Moderate to heavy	Most existing structures of unreinforced masonry and concrete, should be reviewed for seismic safety.
B	1) Most churches 2) Libraries 3) Schools 4) Hospitals 5) Convalescent hospitals 6) Regional shopping center structures 7) Some governmental and office structures	Light to heavy, occasionally total	None to moderate	Moderate to heavy, occasionally total	Light to heavy	All schools pre-1933 and after comply with Field Act Hospitals constructed or additions must comply with Senate Bill 519, amendments, and additional legislative requirements for hospitals, mental facilities and nursing homes. Review is needed of non-structural items such as elevators, generators, heating, cooling, etc., units which generally are not tied down and can cause serious damage.
C	1) Pre-1933 unreinforced concrete structures	Heavy to total	Light to heavy	Heavy to total	Light to heavy	Existing structures of unreinforced masonry and concrete have been reviewed for seismic safety.
D	1) Schools 2) Industrial/commercial buildings 3) Libraries 4) Police and Fire departments 5) Rest homes 6) Hospitals	Moderate to heavy	None to moderate	Moderate to heavy	Light to heavy	Legislation requires seismic safety for schools and hospitals and their future additions. Industrial/commercial buildings damage will be variable. Consideration of seismic safety studies should be given to emergency facilities and operations (police and fire) and other disaster centers. Loose items such as generators, electrical equipment, heating, cooling, water or support systems should be reviewed for seismic safety. Compliance with changes in UBC, March 1973 regarding roof-wall connections should be implemented.
E	1) Civic Center 2) South Coast Plaza	Moderate to heavy	Light to moderate, possibly heavy	Moderate to heavy	Light to moderate, possibly total	Damage will be variable. Most damage will occur when long period earthquake waves (from distant events) coincide with natural period of building. In nearby events damage to support systems (air, water, electrical) and evacuation routes (elevators, stairwells) may be more critical than structural damage.
F	Underground utilities	Moderate to heavy	None to light	Moderate to heavy	Light to moderate	Underground public utilities could be structurally damaged by nearby events, and distant events. Damage would affect widespread areas of the city.
G	Santa Ana River and San Diego Freeway overcrossings and underpasses	Moderate to heavy, possible total	None to heavy	Light to heavy, possibly total	Light to heavy, possibly total	
H	Oil Tank Structures	Light to heavy, occasionally total	None to heavy	Light to heavy, occasionally total	Light to heavy, occasionally total	Largest hazard possibly to post-earthquake fire. Recommend seismic safety review of all storage tank facilities. Damage variable, but likely serious due to structures' multiple centers of gravity.

The various levels of damage due to ground shaking are defined:

1. None. No damage.
2. Light. Nonstructural primarily cosmetic damage, including cracked plaster or brittle wall materials and windows, no disruption of utilities, elevators, and so forth.
3. Moderate. Extensive cosmetic damage, repairable structural damage, including cracking of foundation supports and weak structural ties; damage to elevators, rigid utility lines; extensive cracking and minor collapse of brittle materials; generally little nonrepairable structural damage.
4. Heavy. Major structural damage, very extensive cosmetic damage; foundations shifted and severely damaged; possible partial structural collapse, much nonrepairable structural damage; very extensive breakage and collapse of brittle wall materials and windows; severe deformation of door and window openings; disruption of most utilities and support services.
5. Structural failure and/or collapse. Near or total structural failures, partial or total collapse of walls and roofs.

The following categories of structures were devised by Fugro, Inc., to encompass the predominant building types existing in the City. An approximation of the percent of total occupied land by the structural categories is also presented where applicable.

- TYPE A. UBC Building Types IV-V, built pre-1933, one to four stories. Wood frame houses and small commercial and industrial structures. Approximately 1-3 percent of total occupied area.
- TYPE B. UBC Building Types I-III and V, built post-1933, one to four stories. Primarily wood frame houses and small commercial and industrial structures. Approximately 65 percent of total occupied area.
- TYPE C. UBC Building Types I-III, built pre-1933, one to four stories, including small to large industrial buildings, public buildings, and schools. Less than 1 percent of total occupied structures.
- TYPE D. UBC Building Types I-III, built post-1933, one to four stories, including small to large industrial buildings, public buildings and schools. Approximately 25 percent of total occupied structures.

- TYPE E. UBC Building Types I-III, built post-1933, greater than four stories, includes high-rise governmental and private commercial buildings. Less than 5 percent of total occupied structures.
- TYPE F. Underground structures, pipelines, vaults, valve structures, well casings.
- TYPE G. Bridges, freeway, railroad, flood control crossings.
- TYPE H. Miscellaneous structures not covered in Types A through G. Less than 1 percent of total.

Potential Damage to Critical Facilities

The study of California's geologic fault system and the evaluation of earthquake activity and potential has received increased emphasis by the United States Geologic Survey and the California Division of Mines and Geology since 1973. These agencies have published several documents, three of which evaluate the possible effects of major or catastrophic quakes on critical facilities along the Newport-Inglewood and the southern sector of the San Andreas faults. The documents are:

- Special Publication 60, Earthquake Planning Scenario for a Magnitude 8.3 Earthquake on the San Andreas Fault in Southern California, California Department of Conservation, Division of Mines and Geology, 1982. This document identifies seismic intensity distribution and lifeline damage assessment for a catastrophic event on the southern San Andreas fault. It is the basis for California's emergency planning and response for such an event.
- Special Publication 99, Planning Scenario for a Major Earthquake on the Newport-Inglewood Fault Zone, California Department of Conservation, Division of Mines and Geology, 1988. This document identifies seismic intensity distribution and lifeline damage assessment for a major seismic event on the Newport-Inglewood fault zone. It is the basis for California's emergency planning and response for such an event.
- U.S. Geological Survey Professional Paper 1360 - Evaluating Earthquake Hazards in the Los Angeles Region - An Earth-Science Perspective, Department of the Interior, U.S. Geological Survey, 1985. The paper addresses the total of the earthquake problem in the Los Angeles region. In the section on Applications, there is included a detailed discussion on "Predicted Geologic and Seismologic Effects of a Postulated Magnitude 6.5 Earthquake Along the Northern Park of the Newport-Inglewood Zone."

There are no identified documents which treat with the same detail an evaluation of the effects of a major event along the Elsinore and San Jacinto fault zones, or the Cucamonga fault.

Any major or catastrophic earthquake can be expected to cause:

- A significant number of injuries and some deaths.
- Considerable disruption to life's routines and to business and government operations for a protracted period of time until recovery operations can be accomplished.
- Loss of utilities, communications and traffic flow until repair and reconstruction actions can be completed.
- Displacement of people and the resultant requirement to provide temporary shelter, mass feeding and welfare services.
- The city and the population to be prepared to be self sufficient for a period of up to 72 hours until mutual aid, and State and Federal support mechanisms can become operational and effective.

A Newport-Inglewood event at a magnitude about 7, as measured on the Richter (R) scale, or a southern San Andreas event at the postulated 8.3 (R) magnitude will effect large areas of the Los Angeles basin. Personnel casualties will vary widely depending on the time of day and day of the week that the earthquake occurs. However, on an hour-for-hour comparative basis, the Newport-Inglewood event is expected to cause greater casualties than the San Andreas event of a greater magnitude.

The postulated southern San Andreas event will have an effect requiring wide ranging emergency response over a seven county area. Such an event will all but preclude any local mutual aid response between jurisdictions within the impacted area.

The City of Costa Mesa Multihazard Emergency Plan has taken into account these studies and outlines appropriate emergency response actions. The Multihazard Plan anticipates the following effects of a major earthquake in Costa Mesa:

The population make-up of Costa Mesa includes a measurable number of elderly people and persons with medical treatment dependency. This segment of the population can experience a higher than average number of earthquake related casualties. A scientific basis for estimating the number of casualties (deaths and injuries) for a community such as Costa Mesa has not been identified.

Particularly vulnerable to earthquake damage are mobile home units, especially those with no seismic tie-down application. In extended earth shaking situations, mobile homes tend to move off of support pedestals or foundations, then buckle and snap utility lines coming into the home. Severance of gas and electricity lines present an additional hazard to occupants because of the increased possibility of electric shock, fire and explosion.

There are 21 mobile home parks within the City generally in the southwest sector and along Newport Boulevard. Any appreciable damage to these structures will create a homeless population which will require care.

A displaced and homeless population will exist within the City for a period of time. This situation requires internal planning beyond the scope of Red Cross or Salvation Army accommodation. In the event of a catastrophic earthquake in Southern California the resources of these agencies will become overtaxed quickly and local jurisdictions will be required to perform people services on their own.

Statistics relating to mass care operations in disasters clearly point out that 25-30 percent of persons rendered homeless in a disaster seek shelter in mass care facilities for more than a day or so. The balance move in with friends or relatives, move to motels or hotels, camp out, or leave the area for the immediate period. They then return to seek solutions to their housing problems.

It is estimated that 1500 to 5000 persons in Costa Mesa will require temporary shelter after a catastrophic earthquake.

Damage to Vital Public Services, Systems and Facilities

1. Bed Loss in Major Hospitals

The hospitals within and adjacent to the City may require partial or total evacuation because of the lack of support systems (utilities) and/or structural damage. Such conditions will require use of other medical care facilities. The City uses, as required, other medical hospital facilities in surrounding communities for patient care. These hospitals may be supporting an increased patient load from throughout the area and support for the City cannot be presumed as fact. The Costa Mesa Medical Center, with 99 beds, lies within 5 miles of the NIFZ. Other acute care area hospitals within this critical zone which handle patients/casualties from the City include Humana Hospital, Huntington Beach; Pacifica Community Hospital, Huntington Beach; Fountain Valley Community Hospital, Fountain Valley; and, Mercy General Hospital, Inc., Santa Ana.

Casualty evacuation from casualty collection points direct to the State Disaster Support Area (DSA) at Los Alamitos Armed Forces Reserve Center or other designated medical evacuation point may be required.

2. Highways

Access to and through the City is highly dependent upon the condition of a number of critical thoroughfares. Should any of these routes be blocked by debris, accidents, or collapse of freeway overpasses or on/off ramps, traffic patterns will be seriously affected and emergency response capability may be delayed or restricted.

Freeway traffic is expected to be seriously impaired in a major quake with traffic jams on the system resulting in motorists seeking alternate surface street routing. Such a condition can impair trafficability on City streets.

The City is surrounded by the freeway/major highway system. In this area there is heavy truck traffic on the I-5, SR 55, SR 73 and I-405 routes plus Coast Highway 1. This fact may present additional problems to the City as these vehicles attempt travel on alternate routes in order to meet delivery schedules to consignment areas.

3. Communications

a. Telephone Systems

Costa Mesa is in "planning zones B and C" for the San Andreas major earthquake scenario. This means that almost total outage of telephone communications can be expected immediately after the quake with a gradual recovery of service over days to weeks. In a "B" zone it is expected that no more than 55-60 percent recovery can be expected within three days. In a "C" zone 40 percent within three days. The "C" zone is the western part of the City.

Limited resources available at the time the Newport-Inglewood scenario was developed precluded identification of planning zones. However, severe reduction in telephone service can be predicted for the first few hours following the event because of severe overloading of the system caused by post earthquake calls, displaced receivers, the initiation of random-dial control by telephone companies and the damage to equipment and downed transmission lines.

b. Radio Systems

Emergency response and other local jurisdiction radio systems are expected to operate at around 40% effectiveness for response forces for the first 12-24 hours following a

major quake. This will occur because of the need to employ these communications systems for a broad spectrum of transmissions until augmentation can be secured. The integration of amateur radio volunteers will be required. Such capabilities exist in a volunteer system within the City.

Radio traffic will be unfavorably impacted if microwave towers, repeater stations and/or antenna systems become misaligned or are damaged.

Effective radio communications require that communications discipline procedures be followed. Persons using radio must transmit only as required and emit transmissions to essential elements of information.

c. Commercial Broadcasters

All radio and television stations in the Los Angeles basin are expected to incur some disruption of broadcast capability for periods of up to 24 hours. This will occur because of equipment failure, damage, destruction, transmission line outages or power problems. The Emergency Broadcast System (EBS) is expected to experience some reduction in capability for the first hours after the event. City access to the EBS system will be through the Orange County Sheriff and Control One.

Persons or facilities with the capability of monitoring out of area broadcasts must be cautious about accepting any such broadcast information at face value.

4. Water Supply and Waste Disposal

The aqueducts supplying water to the Los Angeles basin are the Los Angeles and California lines. A major earthquake on the southern San Andreas fault will disrupt water delivery from those systems until repairs are made - a period estimated at 3-6 months.

Local water supply systems and delivery pipelines can be damaged in any earthquake. While water supplies in reservoirs may exist, damage to delivery systems will impact upon the ready availability of water at normal outlets. Water delivery by tanker trucks, water trailers, bottles or cans will be necessary. Central water points will have to be established for the accommodation of the population. Distribution to institutions (hospitals, convalescent centers, mass care shelters, jails and mass feeding locations) may be required.

Waste disposal can operate effectively only if water and electric power are available. Failing the supply of these utilities, waste systems cannot process raw sewage. Damage to

the sewer infrastructure may also occur as a result of earth shaking and/or surface rupture. Such conditions will require that alternate sanitary facilities (portable toilets and garbage/refuse dumps) be established on a temporary basis until repairs are made and circulation problems are resolved.

If sewer lines are ruptured and surface flow of raw sewage results, this condition will require the attention of public health officials and appropriate, specific cautions and direction must be issued to the public. A major event will rapidly overtax the Orange County Health officials and City personnel may be required to take over those responsibilities until they can be reassumed by the County.

5. Electric Power

Damage to power plants, generating systems and transmission lines must be anticipated. A reduction of generating capacity by at least 50% for several days is not an unreasonable assumption. Necessary repairs to power lines, replacement of transformers, repair of separated lines to individual structures and the heavy work load on repair crews may preclude electric power delivery for a protracted period. Serious damage to generating stations and/or substations will result in extended delays in restoration of power.

The City has limited backup power capability to operate some critical facilities/functions. The Emergency Operations Center and Communications Facility have backup power.

Facilities with backup power equipment should have adequate fuel supplies to support operations for two or more weeks.

6. Natural Gas

The natural gas delivery system will sustain damage through breaks in major underground transmission lines, local distribution lines and in service line connections.

There are two major transmission lines which traverse areas in the vicinity - one traveling generally along Beach Boulevard to the Huntington Beach power plant operated by Southern California Edison (30"), and a 30" line which generally parallels the 5 Freeway, its closest point to Costa Mesa at approximately the confluence of the I-405 and I-5.

Fires from natural gas line breaks should be anticipated, though automatic fail-safe systems along significant distribution lines afford some appreciable safeguards. Breaks occurring at individual structures will require immediate action on the part of occupants to cut off the supply to prevent fires and possible explosions.

GOALS, OBJECTIVES AND POLICIES

GOAL I: ENVIRONMENTAL QUALITY AND RESOURCE CONSERVATION

It is the goal of the City of Costa Mesa to provide its citizens with a high quality environment through the development and conservation of resources, including land, water, minerals, wildlife, and vegetation; the protection of areas of unique natural beauty and historical, social, cultural, and scientific interest; the integration of natural features into the man-made environment; and the preservation of open space.

Objective I-G: Regulate oil extraction activities within the City to attain a reasonable accommodation of the need to recover a precious resource with the need to protect other properties and uses from the detrimental impacts of such activities and to work towards the eventual termination of such activities within the community.

54. Limit present oil extraction activities to those properties currently in oil production.
55. Continue to allow oil extraction activities on those properties currently in oil production until such time as these activities are no longer economically or technically feasible and are terminated by the oil producers, or existing land use entitlements expire, whichever occurs first.
56. Establish development standards and review criteria to minimize the impact of existing oil production activities on other land uses existing or proposed to be developed on properties containing oil wells.
57. To the extent permitted by law, prohibit the location of major oil transport pipelines through the City.
58. Take steps to minimize detrimental effects of the conversion of existing oil producing lands to other uses.
59. Prohibit new residential development on property containing active oil extraction activities. Permit new industrial and commercial development on such properties only if the impacts of the oil extraction activities can be mitigated to a level of insignificance.

GOAL II: ENVIRONMENTAL PROTECTION AND PRESERVATION

It is the goal of the City of Costa Mesa to protect its citizens and property from injury, damage, or destruction from environmental hazards, including hydrologic, geologic, and climatic episodes, and to work towards the improved noise abatement and improved air and water quality.

Objective II-A: Work towards the mitigation or prevention of potential adverse consequences of natural disasters.

64. Consider geologic hazard constraints in the development of land use policies and public decisions relating to land development.
65. Enforce standards, review criteria, and other methods to ensure that structures on or adjacent to bluffs are set back sufficiently to preserve the natural contour and aesthetic value of the bluff line and to provide sufficient access for fire protection.
66. Require geologic surveys of all new development located on or adjacent to bluffs.
71. Design all noncritical structures to conform to the seismic design requirements contained in the Uniform Building Code to provide a minimum level of seismic hazard protection.
72. Require developers to conduct site-specific seismic design studies, including consideration of the structure use and occupancy, for all critical structures (schools, hospitals, high-rise structures over three stories, emergency medical and disaster centers, and important government facilities) to identify specific seismic design parameters in conformance with the Uniform Building Code necessary to preclude the collapse of the structure in the event of a major seismic episode.
73. Identify and publicize the extent of geologic and seismic hazards within Costa Mesa and advise affected residents and property owners of appropriate protection measures. Offer information regarding earthquake standards to reduce or eliminate structural damage.
74. Identify and publicize the location of all public structures which do not meet current seismic design criteria and which may pose public health hazards in the event of a major earthquake. To the extent feasible, so identify and publicize private structures.
75. Encourage, through technical assistance or development incentives, private property owners to take adequate steps to protect their property against seismic hazards.
76. Ensure that all vital or critical City facilities are operated and maintained in a manner to maximize their ability to remain operational in the event of a major seismic disaster.

REFERENCES

1. Costa Mesa Geologic and Seismic Assessment, Fugro, Incorporated: Consulting Engineers and Geologists (1978)
2. Urban Geology Master Plan for California, California Division of Mines and Geology
3. "Preliminary Distress Evaluation at the residential area bounded by Fairview Road, Sunflower Avenue, South Coast Plaza II and South Coast Drive, Costa Mesa, California," December 1985, Leighton and Associates, Inc.
4. Environmental Geology of Orange County, California, California Division of Mines and Geology, Paul K. Morton, Russell V. Miller, James R. Evans, 1976
5. Planning Scenario for a Major Earthquake on the Newport-Inglewood Fault Zone, California Division of Mines and Geology, 1988
6. City of Costa Mesa Draft Multihazard Emergency Response Plan, City of Costa Mesa, May 1991

Cultural Resources

CULTURAL RESOURCES

The City of Costa Mesa already had a significant history when it was incorporated in 1953. The boom town of Fairview sprang up in 1887, and the Indians had been here for thousands of years before the first white man settled in the area in the late 1700's. There is evidence that in prehistoric times the area was inhabited by a variety of sea life and terrestrial creatures ranging from fish and sea birds to camels and mammoths. Evidence of much of this history and prehistory still exists in the form of fossils, buried man-made implements and old buildings. This subelement discusses the City's paleontological, archaeological and historical resources as well as the City's cultural facilities and events.

PALEONTOLOGICAL RESOURCES

Paleontology is the study of geologic deposits and fossils to locate and analyze evidence of prehistoric forms of life.

Most of the paleontological resources in Costa Mesa are found in the Palos Verdes Formation - a collection of sand and gravel deposits approximately 100,000 years old. These deposits were made during the time the Costa Mesa area was covered by the Pacific Ocean. Often referred to as Palos Verdes Sand, these deposits contain evidence of the kinds of life that inhabited the area prior to man's arrival. Scientists working in the Costa Mesa-Newport Beach area have identified more than 500 species of marine invertebrate fossils. These primarily include varieties of gastropods (marine snails) and bivalves (clams, oysters, mussels). Significant numbers of both marine and nonmarine vertebrate fossils have also been found (fish, birds, sea and land mammals).

Ten paleontologic localities have been identified within the City of Costa Mesa. These sites have been prioritized as to significance and urgency of action based on location and accessibility; mode of preservation; quality and abundance of specimens; ease of collecting; taxonomic composition (types of organisms) and diversity of the fossil assemblage; unique or special attributes; occurrence of previously undescribed, unusual or otherwise noteworthy taxa (genera or species); past, present and potential future contributions to academic research and public education. Sites were evaluated within the context of Orange County paleontological resources. The rating system ranges from first order (highest priority - recommended for in situ (in its present location on the site) preservation and accessibility for scientific study and public education to sixth order (poorly preserved fragments - no impact foreseen, no salvage recommended).

Sites identified in Costa Mesa are classified as third, fourth or fifth order. Third order (high priority) suggests further search for fossils prior to and during grading operations.

Fourth order sites indicate the possibility of more significant resources being found beneath the surface. Monitoring by a

qualified paleontologist of grading operations on and near the site is recommended.

Fifth order sites include those not subject to impacts from impending development. Collections, especially for educational purposes, could be salvaged if destruction becomes imminent.

The sites, their approximate locations and significance are discussed below. Site locations are shown in Figure 29.

F-91. Near the intersection of Boa Vista Drive and Nevis Circle, a 1962 excavation produced the partial skeleton of a mastodon. The specimen was removed and is now on loan from the Costa Mesa Historical Society to the Natural History Foundation of Orange County. Although classified fourth order, the site has since been developed for single-family homes.

A-3129. This site is located on the plateau of Fairview Regional Park not far from the Fairview Indian Site. Fifty-two species of molluscs were identified here. The species identified indicate that the site has previously been covered by a bay or a protected beach. A-3129 has been classified as a fifth order site.

LACM-3267. This site is located at the northwest corner of 19th Street and Anaheim Avenue. An excavation here produced a mammoth tooth and a limb bone of an elephant (either mastodon or mammoth). Both are now in the collection of the Los Angeles County Museum. No further specimens were found and the site has since been developed. Fourth order classification has been assigned.

LACM-4219. A large assortment of vertebrate and invertebrate fossils were recovered from this site which is in the excavation for the Costa Mesa Freeway just south of Santa Isabel Avenue. Molluscs comprise the majority of the find and include more than 100 species. Vertebrate fossils recovered include those of fish, birds, sharks, sea lions and seals. The composition of the fauna suggests that this was once an open, shallow, sandy bottom marine environment. The site is considered to be third order.

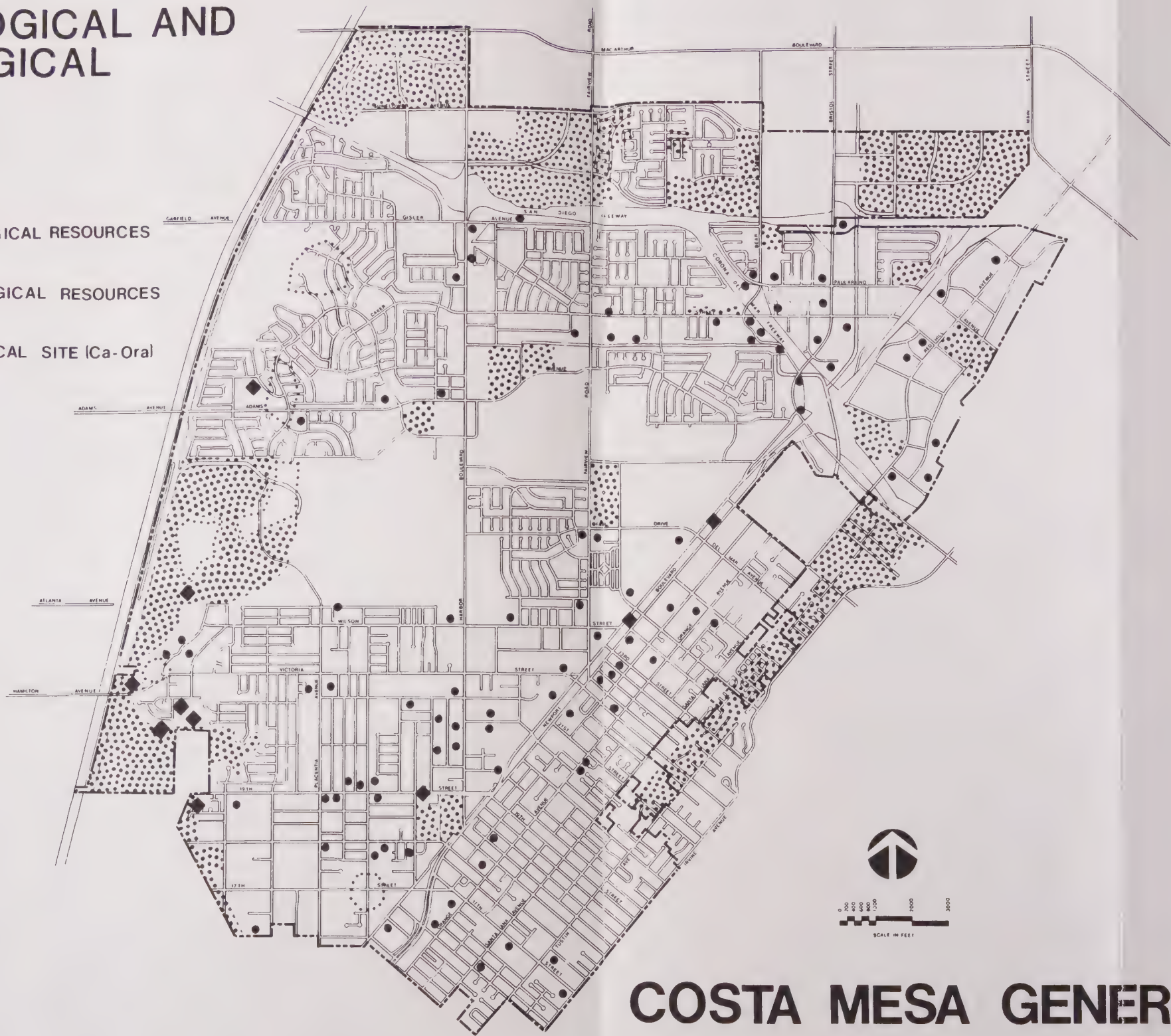
JDC-CM-1. This is the first of four sites discovered during research for the General Plan. This locality is in the cliff on the north side of Victoria Street east of the Santa Ana River. Fragmented shell material from bivalve and gastropod molluscs have been identified. A fifth order classification has been assigned.

JDC-CM-2. Fossil molluscs occur in at least two separate intervals at this location. This fifth order site is in the west-facing bluffs within the recently purchased Canyon Park.

JDC-CM-2A. This site occurs directly north of JDC-CM-2 in a west-facing slope and contains numerous oyster shells and other molluscs. It lies stratigraphically above JDC-CM-2 and when considered together, they merit a third order priority.

PALEONTOLOGICAL AND ARCHAEOLOGICAL RESOURCES

- ◆ PALEONTOLOGICAL SITE
- SURVEY FOR ARCHAEOLOGICAL RESOURCES
- ▨ SURVEY FOR ARCHAEOLOGICAL RESOURCES
- ▤ RECORDED ARCHAEOLOGICAL SITE (Ca-Ora)



COSTA MESA GENERAL PLAN

FIGURE 29



JDC-CM-3. A small collection of shells representative of a bay-type environment can be found at this site located at the west end of 19th Street. The site is ranked fifth order.

JDC-CM-4. Although topographically lower than JDC-CM-2 and 2A, this site is younger or more recent. The site lies south of the bluffs containing sites JDC-CM-2 and 2A and is designated as a fifth order locality. It contains marine shells that barely, if at all, qualify as fossils due to their young geologic age.

VAC-CM-4. This site is located between Mesa Drive and Del Mar Avenue within the excavation for the Costa Mesa Freeway. Resources are similar to those found at LACM-4219 several hundred feet to the southwest. A wide variety of molluscs are exposed and in good condition, leading to the site's classification as third order.

The risk of impact to paleontological resources is much the same as for archaeological resources. Development or excavation on paleontological sites can destroy or disrupt resources to a point that they are lost or valueless. Paleontological resources are deposited in geologic strata and represent plants and animals over a larger area - not concentrated in specific small settlements. For this reason, fossil deposits may extend beyond the perimeters of an identified site.

The primary value of paleontological study is to determine the previous environment at the site. This can be done through scientific examination of the site and careful collection of the fossils for further study.

Disclosure of paleontological locations and proper study and collection of specimens prior to development are the primary results of project review. Once a site has been studied and sufficient material collected, discovery of paleontologic resources need not pose any further obstacle to development.

ARCHAEOLOGICAL RESOURCES

Costa Mesa is rich in archaeological resources. Indians first settled here prior to 1500 B.C. Over the years, discarded pottery and implements made of bone and stone found their way into the soil to await discovery hundreds or thousands of years later. Occasional burial sites have also been discovered. The most common indications of Indian habitation are concentrations of shells collected for food.

Seven previously recorded archaeological sites exist in Costa Mesa. These are primarily located on or near the bluffs overlooking the Santa Ana River or Upper Newport Bay. A brief description of each site follows. The locations of these sites are indicated on Figure 29. (The classification number indicates California - Orange County - site number.)

Ca-Ora-163. This site consists of two major segments located under what is now the Mesa Verde Country Club and surrounding homes. The site is described as a large elongated shell midden ranging from one to four feet in depth. (A midden is a heap of refuse - in this case shells - discarded from the kitchen or eating area of a

previous civilization.) The site has been investigated on several occasions since 1938 and has yielded artifacts including hunting and food processing implements and human burials. The site has been subjected to considerable impacts due to the construction of the Country Club and adjacent homes, although portions of the site are believed to remain intact.

Ca-Ora-76. This location lies approximately 2,200 feet south of Ca-Ora-163 in the area around the intersection of Adams Avenue and Placentia Avenue. Like the previous site, substantial impacts have been incurred due to construction of residences and public streets, especially Adams Avenue. There are portions of the site which are believed to remain intact, near the intersection and in the vicinity of the Estancia Adobe. The site contains a shell midden with evidence of two habitation levels.

Ca-Ora-58 and Ca-Ora-506. Commonly referred to as the "Fairview Indian Site", these sites are located within the area of Fairview Park. Ca-Ora-76, described above, is believed to be a northerly extension of the same habitation complex on the bluff overlooking the Santa Ana River. Relatively minor damage has occurred in these areas as the land is largely undeveloped. The significance of these sites is indicated by the fact that they have both been placed on the National Register of Historical Places.

Ca-Ora-165. Located at the intersection of Valley Road and Victoria Street, this site is comprised of shell midden containing several stone artifacts. Although the site is assumed to have been largely destroyed by residential construction in the area, portions may underlie undeveloped properties north of Victoria Street along Canyon Drive and Pacific Avenue. Further analysis of these sites is recommended prior to development.

Ca-Ora-297. Several fragments of stone tools were found when the site, located at the northwest corner of 17th Street and Pomona Avenue, was surveyed in 1971. At that time, bulldozers were operating adjacent to and on the site, and it is assumed to have been destroyed as it is presently occupied by industrial buildings.

Ca-Ora-687. This site, located south of Bristol Street and east of Santa Ana Avenue, was recorded in 1978. The site consists of two distinct locations, the more recent having been occupied some time between 500 A.D. and 1500 A.D. Prior to 1980, artifacts were salvaged from the site due to impending development plans. Artifacts included fragments of stone tools and two human burials. The excavations resulted in the removal of a representative sample. Although no further salvage or mitigation was deemed necessary, monitoring of preliminary grading activity by an archaeologist has been required of subsequent development.

In July and August of 1978, a systematic survey was conducted of the remaining undeveloped areas in the City. This project included a search of previous records and a field survey of vacant land. The approximate locations of the parcels surveyed are shown on Figure 30. Besides the seven previously recorded sites, the survey

identified at least nine additional locations of possible archaeological significance based on surface observations. The actual significance of the sites can only be determined after subsurface testing. Further information can be obtained from the report prepared for the City of Costa by Archaeological Associates in 1978.

Development of sites containing archaeological resources brings the possibility of damage or destruction to those resources. Previously recorded and investigated sites in Costa Mesa have yielded artifacts at depths ranging from one to seven feet, with the greatest number of items being found between one and two feet. The construction of nearly any type of building or road involves excavation or scarification of the soil to a depth of one to two feet or more. Construction of parking lots and installation of groundcovers normally involve disturbance of the first six inches of soil or less. New shrubs and trees, however, require planting holes ranging from one to three feet in depth.

In summary, almost any kind of development on land containing archaeological resources will directly impact those resources. The scientific, cultural and educational value of historic or prehistoric artifacts can be severely reduced by such disturbance. Items may be damaged or lost and their distribution in the soil may be altered from the original condition, thus misleading investigators as to their use and the location of various activity centers within the original settlement.

Additional activities with potential for adversely impacting archaeological resources are vandalism and "pot-hunting". The latter term refers to the nonmalicious activities of persons simply looking for souvenirs for their own collections. Although no harm is meant, digging by unqualified persons results in disturbance to the site, damage to artifacts and loss of materials which might be valuable to a scientific investigation of the site.

Impacts from development on archaeological resources may be mitigated in a variety of ways. The most obvious is to prohibit further development in archaeologically sensitive areas. However, this is normally not a practical solution unless the land is publicly owned or can be used, in its natural state, to satisfy open space requirements of a larger private development. Even if the "no development" alternative were feasible, and it may be in some cases, the possibility would remain for damage to the site from vandals or souvenir hunters. With proper design and protection, archaeological sites could become integral parts of public parks. This would be the preferred course of action with the Fairview Park sites, as they are probably the two most significant archaeological sites in Costa Mesa.

If development must occur over a known archaeological site, it may be possible to place fill over the site for protection and to install the least disruptive improvements (landscaping or open parking lots) on the filled area.

If archaeological deposits cannot be protected, it may be necessary to excavate artifacts to prevent their loss or damage. This process involves a systematic survey and delicate salvage operation to be conducted by qualified professional archaeologists. As most educational institutions and cultural organizations do not have sufficient staff or funds to undertake such operations without charge, financing must come from either the developer or the City.

Excavation is generally considered by archaeologists to be the last resort if artifacts cannot be preserved in situ. Preservation of the site is preferred in order that it may be studied by future generations having greater skills and more advanced methods and analytic abilities.

HISTORICAL RESOURCES

This section deals with the activities of humans in Costa Mesa since 1769, when the first Spanish expedition passed through Orange County. The Mission San Juan Capistrano was established in 1775. The Mission raised large herds of cattle which are believed to have grazed as far north and west as the Santa Ana River. Shortly after 1800, three adobe structures were built on the western bluffs of Costa Mesa overlooking the Santa Ana River.

The oldest of the three, known as the Estancia, has been restored and is open to the public as a museum of the period. The structure, located within a public park at the northwest corner of Adams Avenue and Mesa Verde Drive East/Placentia Avenue, is owned by the City of Costa Mesa and administered by the Costa Mesa Historical Society.

The Estancia is believed to have been built by the missionary fathers to provide shelter for the herdsmen tending the Mission's cattle. It may also have provided shelter for trips between the Mission San Juan Capistrano and other missions to the north. There is speculation that the padres may have used the Estancia as a substation to administer religion to the Indians living in the area.

The history of the other two adobes is less definite. The Rice Adobe, which was located just north of what is now Gisler Avenue, was torn down in 1919 and the site is now covered by a housing tract. The Polloreno Adobe was located about 1/3 mile south of the Estancia, east of Placentia Avenue in Fairview Park. Although the structure was destroyed in the early 1900's, it is possible that some remnants may remain beneath the surface of the soil.

The next significant phase in the City's history occurred in the late 1800's and early 1900's and saw the establishment of three independent communities at various times. The farming community of Paularino and the towns of Fairview and Harper figure prominently in the early development of the City. Evidence of them remains in the form of present day street names, several original buildings and other structures which still stand.

The late 1880's saw a land boom in Southern California. As a result of this, in 1887, the town of Fairview was established in the area surrounding the present intersection of Harbor Boulevard with Adams Avenue and Baker Street. Within a year, Fairview boasted its own post office, newspaper, school, church, hotel, mineral bath house, general store, drugstore and meat market. Despite its encouraging beginning, Fairview was unsuccessful, and by 1890, commercial activity had virtually disappeared. The last vestige, the Fairview Hotel, was torn down in 1920.

The only remaining physical evidence of the town of Fairview is some of the old hotel lumber which was used to build a home at the corner of Wilson Street and Meyer Place, and a palm tree which stands between two apartment buildings on the south side of Baker Street. The tree was originally planted as one of a pair marking the entrance to the home of E. A. Yale, one of the early settlers of Fairview.

At the same time Fairview was growing, a second community was being formed farther to the east. Beginning in 1886, settlers from Boston began locating in the area around Baker Street between Fairview Road and Newport Boulevard, and called their settlement Paularino. This was primarily a farming community and, unlike Fairview, had no commercial component. Perhaps partly for this reason, the community was more stable, and several of the old farm houses were still standing as late as 1972.

Paularino's first schoolhouse, located just north of Bear Street School, was built in 1912 and was used until it became overcrowded in 1922. The original building was converted to a residence and was utilized as such until it was demolished in 1988. Jake Shiffer, whose family moved to Paularino in 1910, moved into the converted schoolhouse in 1972 when the original Shiffer farmhouse was demolished to make way for the Corona del Mar Freeway. In 1978, a new City park was completed across the street from Jake Shiffer's residence and was dedicated Shiffer Park in his honor.

Paularino also had a railroad siding connected to the Santa Ana and Newport Railroad. The siding was located west of Newport Boulevard between Paularino Avenue and Baker Street. Two wooden water tower structures and a windmill, previously located at 655 Baker Street, were removed in 1986. It is speculated that these facilities may have been related to operation of the railroad. The house presently situated at 2150 Newport Boulevard is believed to have been the home of the station master at the Paularino rail siding. It was moved to its present location in the early 1940's.

In 1915, C. J. Segerstrom built, for \$4,000, a two-story home on what is now Fairview Road, in the north end of Costa Mesa. Mr. Segerstrom owned and farmed large areas of land now contained within the boundaries of Costa Mesa and Santa Ana. The Segerstrom family, still farming some of the same area, continues to occupy and maintain the home.

The third early community, and the one which had the greatest effect on the establishment of the City of Costa Mesa was called Harper. Named after one of its early residents, Harper began as a farming community in the early 1890's. It grew to include, in the early 1900's, a commercial district concentrated along Newport Boulevard between 18th and 19th Streets. Some structures built during this period still remain in and around "downtown" Costa Mesa.

In 1909, H. H. Schleepe opened a blacksmith's shop near the general store. The structure still exists at the corner of Magnolia Street and Fullerton Avenue. Next door, at 137 Magnolia, stands the original blacksmith's house. Also in 1909, the James Rochester family moved to Harper from New York and bought five acres of land at the southeast corner of Newport Boulevard and 18th Street. The Rochester home, built on this site, was the meeting place for the organization of the Costa Mesa Chamber of Commerce in 1922. In 1950, the house was moved to a new location at 2051 Newport Boulevard, where it has been used for a variety of residential and commercial activities. (Rochester Street was named in honor of Nat Rochester who was killed in World War I.)

The Edward Ashley family lived on a 15-acre farm at the northeast corner of 22nd Street and Orange Avenue. The home, constructed sometime between 1906 and 1908, is still standing.

In about 1915, a two-story house was constructed on the west side of Tustin Avenue north of 15th Street. The house and land were later purchased by the LaPerle family. When the property was subdivided in 1947, the new streets took on the names LaPerle Lane and LaPerle Place. The original home still stands on the corner of Tustin Avenue and LaPerle Place.

As Harper grew, its residents began looking for a name with more character, and in 1920 the name Costa Mesa was chosen. In 1922, Harry and Fred Opp built a home at 2450 Orange Avenue. The Opps became well known throughout the County in later years for their Opp Gourd Farm. The Opp family still resides in the original home.

In 1923, a building now displaying the address 1785 Newport Boulevard, was constructed for the Friday Afternoon Club. Later used as a meeting place for the Women's Club, the building was converted to a furniture store in 1960. Although a new facade has been added, the original structure is still visible from the rear and sides, relatively unchanged from its original appearance.

The Harper-Fairview School District constructed a new grammar school at the northwest corner of 19th Street and Newport Boulevard in 1923. The building suffered severe damage in the 1933 earthquake but was rebuilt and was back in full service in 1935. Renamed the Clara McNally School, the 5-acre facility was replaced by the Pacific Savings Plaza in 1982. Immediately adjacent to the school, the Methodist Episcopal Church was constructed in 1928. With its 75-foot bell tower, the church is still a prominent landmark in downtown Costa Mesa.

HISTORIC BUILDINGS



1. THE ESTANCIA
2. STATION MASTER'S HOUSE
3. SEGERSTROM HOUSE
4. BLACKSMITH'S SHOP & HOUSE
5. ROCHESTER HOUSE
6. ASHLEY HOUSE
7. LA PERLE HOUSE
8. OPP HOUSE
9. METHODIST CHURCH
10. ARMY AIR BASE BUILDINGS
11. FRIDAY AFTERNOON CLUB

FIGURE 30





The most well-preserved historic buildings are the Estancia, built soon after 1800, and the Segerstrom home, constructed in 1915.





The Blacksmith's shop and residence were constructed on Magnolia Street in 1909.



Since its construction in 1928, the tower of the Methodist Church has been a landmark in Costa Mesa.

World War II brought construction of the Santa Ana Army Air Base. The base, dedicated in 1942, covered 1,283 acres between Newport and Harbor Boulevards from south of Fair Drive to north of Adams Avenue. The air base, used for training purposes, had marked effects on the City, both by its contribution of facilities and its impact on growth and development - especially the attraction of returning servicemen to the area after the war.

The old air base site is now occupied primarily by the Orange County Fairgrounds, the Civic Center, a City park and public schools ranging from the elementary level through 4-year college. Housing developments occupy other portions of the site. In memory of the air base and veterans of the war, a 1.4-acre Memorial Garden and Bird Sanctuary is maintained on the Fairgrounds property. Buildings from the air base - some of which have been moved from their original location - are still used by the Orange County Fairgrounds, Orange Coast college, Southern California College, and the Central Bible Church (190 23rd Street).

According to a list prepared in 1978 by Archaeological Associates, several other interesting and potentially historic buildings exist in the City, for which little or no background information has been found. These include two structures apparently constructed of adobe, and several residences apparently dating from about 1880 to 1920. Further, in-depth research can be conducted if deemed advisable. The most recent chapter in Costa Mesa's history began with the City's incorporation on June 29, 1953.

Subdivision Patterns

Although not considered a historical "resource", the City's historic subdivision patterns have had a significant effect on present-day development and circulation problems. Street alignments and lot shapes and sizes can often be traced to activities or periods in Costa Mesa's history.

One of the most obvious features of the City's physical layout is the skewed alignment of Newport Boulevard and other streets on the east side. This major thoroughfare which, though occasionally interrupted, runs from the ocean inland for approximately 13 miles, coincides with the westerly boundary of Flint and Bixby's Allotment of the Rancho Santiago de Santa Ana. The easterly boundary of the Rancho was where Tustin Avenue is today. The present street pattern was largely determined with Irvine's Subdivision of the Rancho in 1899, and finally established with the recordation of Newport Heights tract in 1906.

The rest of the City, west of Newport Boulevard, although included in the original Rancho Santiago de Santa Ana, was divided on a north/south basis. Starting about 1886, large areas were subdivided into 5-acre lots, to accommodate a home and small farm. These lots commonly measured five chains or 330 feet by 10 chains or 660 feet. (A chain is a surveyor's measure, equalling 66 feet.) After streets were installed, the City was left with numerous 300-foot deep lots. These have since been divided into 60 to 66-foot

widths. Many of these lots originally contained a single residence at the front and a large garden area at the rear. With the later application of multiple-family zoning, severe site planning constraints were encountered due to the narrow, deep dimensions of the lots.

CULTURAL RESOURCES

Costa Mesa offers one of the most diverse and thriving cultural climates of anywhere in the country. The City currently serves as a home to eight different cultural arts organizations: the Ballet Montmartre, the All American Boys Choir, the Costa Mesa Art League, the Costa Mesa Civic Playhouse, Master Chorale of Orange County, Orange County Philharmonic Society, the South Coast Repertory, Orange Coast College, Opera Pacific and South Coast Symphony. Groups located in adjacent communities, which perform in Costa Mesa, add additional cultural opportunities. Through these groups the community has access to symphony, opera, theater, ballet, art, musical, and choral programs.

In 1986, the celebrated Performing Arts Center opened its doors. The 3,000 seat center serves as a home to local performing arts groups as well as attracting national and international companies. The center signals a partnership between the private sector, the City of Costa Mesa, and local arts groups. A local business man donated the \$5 million site on which the center was constructed, while the City offered its support in a variety of ways - waiving a substantial amount in building and permit fees, offering valuable staff support, contributing \$200,000 for the undergrounding of utilities in the area, rerouting Town Center Drive, and providing financing for a multi-million dollar parking structure to accommodate patrons attending performances.

The Community Services Department sponsors a community theatre using actors from the local area. The Civic Playhouse was relocated in 1983 from the Orange County Fairgrounds, where it had been since its inception in 1964, to the Rea Community Center. The City converted a portion of the unused school facility into a 100-seat theatre.

The South Coast Repertory Theatre (SCR) has grown in several locations in Costa Mesa since 1967 and has received a national and international reputation for excellence, including two Tony Awards. The theatre is located in the South Coast Town Center and has seating for 507 in the main stage and 161 in the second stage.

Every year the Chamber of Commerce and the City celebrate the cultural arts by sponsoring the Arts on the Green Celebration. This event is sponsored and organized by the Costa Mesa Chamber of Commerce, local businesses, and arts leaders. The goal of the single day event is to increase the public's awareness and exposure to the arts. This event features visual, musical, drama, and gallery art forms. It allows families and friends to enjoy a community event free of charge.

Although located on land owned by the State, the Pacific Amphitheatre is located in the center of the City. Completed in 1983, the 18,765-seat outdoor theatre holds concerts and name entertainment.

In response to significant growth in cultural arts activities and the resulting demand for financial assistance, the City Council established a Cultural Arts Committee in 1984 to encourage arts activities within the City, to form goals regarding all aspects of cultural arts, and to establish guidelines for the dispersement of City-sponsored grants. At the same time, a new slogan was adopted designating Costa Mesa as "The City of the Arts".

Since its initiation, the Committee has worked with the City Council in the distribution of Cultural Arts Grants, the development of ways to maintain and nurture the arts within the City, and the preparation of an annual State of the Arts Report.

GOALS, OBJECTIVES AND POLICIES

The goals, objectives, and policies of the Costa Mesa General Plan that address Cultural Resources are as follows:

GOAL I: ENVIRONMENTAL QUALITY AND RESOURCE CONSERVATION

It is the goal of the City of Costa Mesa to provide its citizens with a high quality environment through the development and conservation of resources, including land, water, minerals, wildlife, and vegetation; the protection of areas of unique natural beauty and historical, social, cultural, and scientific interest; the integration of natural features into the man-made environment; and the preservation of open space.

Objective I-C: Encourage the preservation and protection of the City's natural and man-made historic resources.

17. Require, as a part of the environmental review procedure, an evaluation of the significance of paleontological, archaeological, and historical resources and the impact of proposed development of those resources.
18. Require monitoring of grading operations by a qualified paleontologist or archaeologist when the site is reasonably suspected of containing such resources. If, as a result, evidence of resources is found, require the property to be made available for a reasonable period of time for salvage of known paleontological and archaeological resources by qualified experts, organizations, or educational institutions.
19. Require developments on land containing known archaeological resources to use reasonable care to locate structures, paving, landscaping, and fill dirt in such a way as to preserve these resources undamaged for future generations when it is the recommendation of a qualified archaeologist that said resources be preserved in situ.

20. Encourage and assist further research into the background of potentially historic buildings about which sufficient information is not yet known.
21. Consult with local organizations and individuals to designate sites, buildings, and structures of historical significance and determine by working with the Costa Mesa Historical Society which historical resources merit preservation. Consider designating a site for the preservation of significant historical buildings and structures.
22. Promote the preservation of significant historical resources and encourage other public agencies or private organizations to assist in the purchase and/or relocation of sites, buildings, and structures deemed to be of historical significance.
23. Create an overlay zone, or similar tool, to require approval of a Conditional Use Permit prior to demolition, grading, or construction on sites identified as having significant historical resources.
24. Encourage development of an interpretive center for paleontological, archaeological, and historical resources at Fairview Park. The center may contain resources found in the park area as well as resources found throughout the City.

Objective I-H: Encourage the provision of spatial, visual, and experiential opportunities for cultural enjoyment and participation including both the performing and visual arts.

60. Encourage the local arts community to maintain and expand activities within the Costa Mesa area.
61. Review alternative means to acquire art through a) encouraging developers to incorporate visual art in the architecture, landscape, and display of art work; b) encouraging donation of art work to the City; and c) encouraging the location of performing groups within the City.
62. Encourage the development of private, permanent art and cultural facilities to meet the City's cultural needs.
63. Encourage through development standards the integration of art into major commercial and industrial developments or redevelopment projects.
155. Encourage and foster the maintenance and development of Cultural Arts programs and organizations in the community, thereby giving all citizens, regardless of age or income, accessibility to the arts in various forms including dance, theater, music and the visual arts.

REFERENCES

1. Miller, Edrick J. "A Slice of Orange"; The History of Costa Mesa. Irvine: Hendricks Printing Company, Inc., 1976.
2. Special report compiled for the City of Costa Mesa by Archaeological Associates, 1978.
3. "Archaeological Impact Evaluation", The California Directory of Archaeological Consultants. The Society for California Archaeology, October, 1976.
4. Environmental Resources/Management Element; City of Costa Mesa General Plan (City of Costa Mesa) 1978
5. Persons and Organizations consulted:
 1. Personal conversations with members of the Costa Mesa Historical Society.
 2. Personal conversations with Hal Segerstrom, C. J. Segerstrom & Sons.

Noise

NOISE

Noise is generally defined as unwanted sound. Section 65302(f) of the California Government Code requires that a City's General Plan contain a Noise Element to provide for the protection of citizens against excessive levels of unwanted sound. In order to do this the Noise Element must identify sources of noise within the community, quantify existing noise levels, project future noise levels and suggest measures to mitigate identified noise problems.

So that noise levels may be discussed meaningfully, they are objectively defined in terms of sound pressure level, which relates to the actual changes in air pressure due to the movement of sound waves. The higher the sound pressure level, the "louder" the sound. For most purposes, sound pressure level is expressed in terms of a more convenient reference system, decibels (dB).

The decibel scale, which ranges from 0 dB to about 140 dB for audible sounds, is based on a logarithmic scale. Thus, a doubling of the sound pressure results in an increase of 3 decibels. Perception by the human ear, however, is not proportionate; the average person perceives an increase of 10 dB as a doubling of loudness.

The human ear does not have a uniform frequency response, and is less sensitive to low and high frequency sounds than to sounds in the middle of the frequency spectrum. Since the purpose of noise measurement and control is relative to its effect on people, a method has been devised to adjust noise measurements to more closely relate to the frequency response of the human ear. This method, known as "A" weighting and expressed as "dB(A)", places greater emphasis on sounds within the sensitivity range of the human ear. Most discussion of community noise levels is in terms of dB(A).

Figure 31 illustrates the levels of a variety of sounds which are part of a typical community noise environment. Individual sounds can be expressed meaningfully in terms of dB(A). Quantification of the noise environment over a period of time, however, requires an additional method of description. In order to evaluate a particular noise environment or compare one to another, some average or other description of the environment over a specified period - 1 hour, 1 day, 1 year - must be used. Following are some of the more common and useful descriptors:

L_{90} is the noise level which is exceeded 90% of any sample time period, (such as 24 hours). This represents the background or ambient noise level.

L_{50} is the noise level which is exceeded 50% of the time. This represents the median noise level.

Typical Noise Levels of Familiar Sources

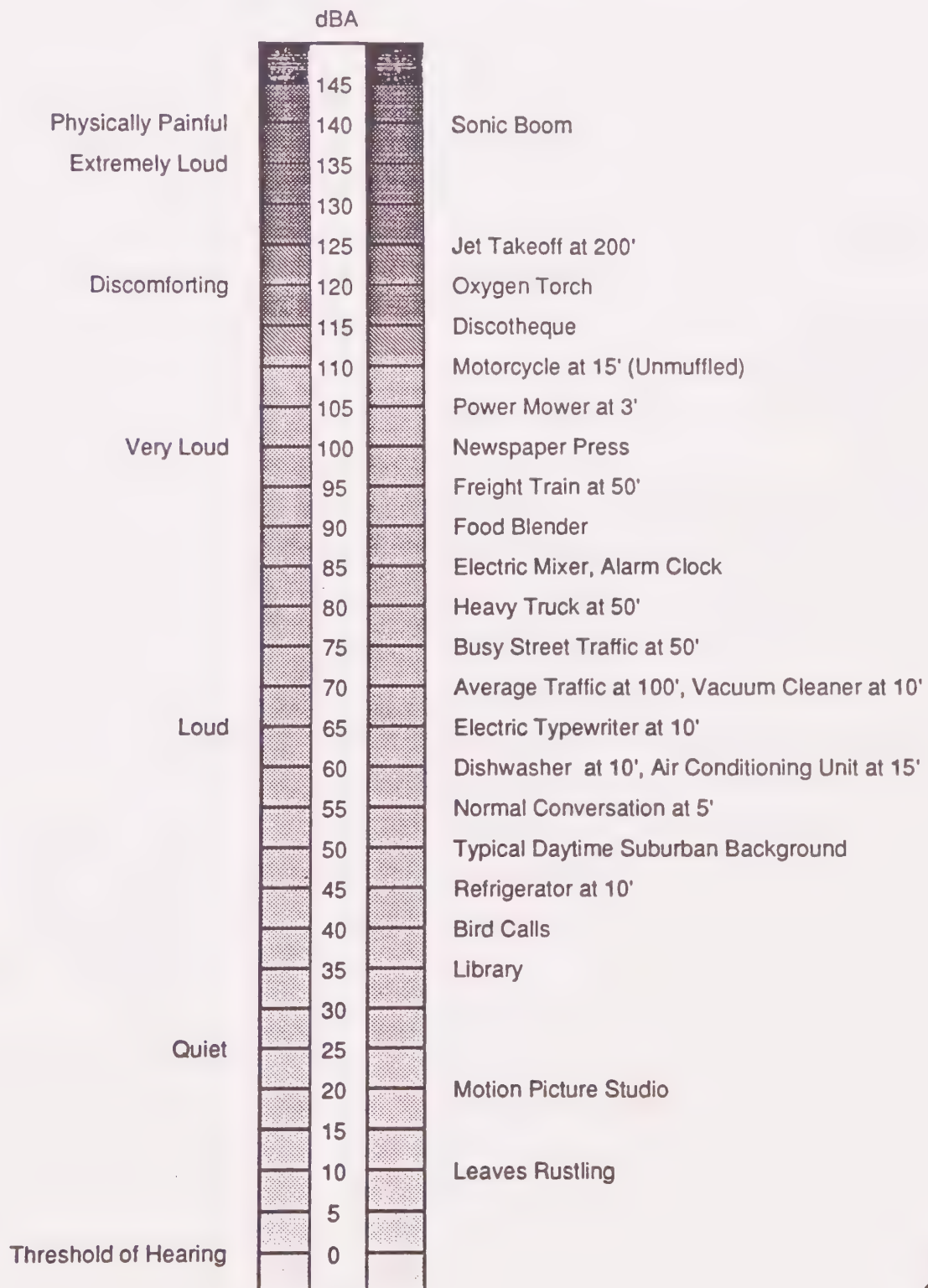


FIGURE 31



Source: Endo Engineering

L_{10} is the noise level which is exceeded 10% of the time. This indicates the near maximum levels of individual noise events occurring during the sample period.

L_{eq} (equivalent noise level) represents the average energy content of a fluctuating noise source over a specified period of time. As this is somewhat of an average, there may be many times during the sample period when the actual noise level exceeds the L_{eq} and other times when the noise level is considerably less.

L_{dn} (day-night) is a refinement of L_{eq} for a 24-hour period including a 10 dB(A) weighting penalty for sound levels occurring between 10:00 p.m. and 7:00 a.m.

CNEL (Community Noise Equivalent Level) is a further refinement of L_{eq} which places a 5 dB(A) penalty for noises occurring between 7:00 p.m. and 10:00 p.m. and a 10 dB(A) penalty for noises occurring between 10:00 p.m. and 7:00 a.m.

SENEL (Single Event Noise Exposure Level) is used to represent the sound level of a single event. This measure, rather than simply indicating the maximum level, represents the total acoustic energy of the event as the sound level increases, reaches the maximum and then decreases. The SENEL value, then, will be greater than the numerical value of the maximum noise level during the event.

The Government Code requires that General Plan Noise Elements use either L_{dn} or CNEL to describe and evaluate community noise levels. In the following discussion the CNEL descriptor will be used.

In addition to loudness, duration is a factor in determining the annoyance value of noise. Normally, a steady sound, such as the rush of a river or distant traffic noise, is less bothersome than a repetitive or impulsive noise such as individual aircraft flybys or hammering sounds. Thus, depending on the frequency of repetition, the CNEL value may not accurately reflect the perceived impact of the noise.

This is a problem encountered in the description of airport noise levels. The CNEL represents an "average" of all sounds over a 24-hour period. In the case of John Wayne Airport, for instance, jet aircraft flights make up the bulk of the noise problem. On average, there are 87 flights per day with hours of operation generally restricted to 7:00 a.m. - 10:00 p.m. This represents one flight every 10 minutes on average, not including the unregulated, or general aviation flights. The noise impact, therefore, is perceived as a series of separate events, rather than a continuous background noise. While indoor home or business activities might be satisfactorily conducted in an environment of 65 dB(A), conversation or television listening may be completely interrupted at (average) 10 minute intervals while jet aircraft pass. Thus, the annoyance is greater than if the CNEL represented a relatively

steady 65 dB(A). The Single Event Noise Exposure Level (SENEL) can be used to more accurately represent individual aircraft flybys.

COSTA MESA'S NOISE ENVIRONMENT

Costa Mesa's noise environment is dominated by vehicular traffic and aircraft noise. In addition to these, a number of other sources contribute to the total noise picture. These include such things as construction activities, power tools and gardening equipment, loudspeakers, auto repair, radios, children playing and dogs barking. In order to provide a description of the existing noise environment in Costa Mesa, noise contours were obtained for airport and highway traffic noise, and measurements were taken at various locations in the City to reflect ambient noise levels.

Traffic Noise

Traffic noise levels can be reliably predicted using formulas which take into account traffic volume, speed and percentage of trucks. Existing noise contours were calculated for all the City's primary and major arterials as well as the three freeways that traverse the City. Some secondary and commuter streets were modelled as well. Noise generation for each roadway segment was calculated and the distance to the 60, 65, and 70 dB CNEL contours was determined. (A noise contour is a line behind which the noise level does not exceed a certain value. For instance, the 60 dB CNEL contour indicates that the CNEL between the street and the contour line is equal to, or greater than 60 dB; the CNEL beyond the contour line - away from the street - is less than 60 dB). The results of these calculations and the noise modelling assumptions are depicted in Table 30 (contained at the end of this subelement); Figure 38 indicates the locations of these various roadway links.

The Government Code requires that, in addition to determination of existing noise contours, contours be projected for future growth levels. Reliable projection of noise contours depends upon the ability to reliably predict future land use and intensity and traffic patterns and volumes, thus noise projections are dependent upon the land use and circulation plan chosen for the City. Ultimate traffic noise estimates are depicted in Table 31 at the end of this section.

Aircraft Noise

Noise contours resulting from operations at John Wayne Airport, shown on Figure 32, are those on file with the County of Orange Office of Noise Abatement, and represent the latest (1989) measurement data. The northeast corner of Costa Mesa is impacted by noise from the airport, but most of the area is industrial. Approximately 150 residences (including one 104-unit apartment complex) are located within the 60 dB CNEL contour, but no residences are within the 65 dB CNEL contour.

Airports which do not meet State noise impact standards are required to obtain variances from the California Department of Transportation. In 1984, John Wayne Airport achieved a zero noise impact area due to the use of quieter airplanes. However, the

State Noise Impact standard was reduced from 70 dB CNEL to 65 dB CNEL effective January 1, 1986. As a result, the airport again has incompatible land uses within its noise impact boundary, and a variance has been requested. The 65 dB CNEL contour, based on 1989 data, does not impact any residential or other noise sensitive areas in Costa Mesa.

John Wayne Airport has implemented an ongoing program of noise reduction which includes: limits on the number of commercial airline flights, noise abatement arrival and departure procedures, admonishment of noisy operators (including private aircraft), curfew, and takeoff weight limitations.

A Master Plan for the airport was approved in February 1985 by the County Board of Supervisors. Settlement of lawsuits concerning airport expansion was reached in December 1985 between the County City of Newport Beach and two community organizations. Under the Master Plan and Settlement Agreement, the airport will serve a maximum of 4.75 million passengers per year with 55 average daily departures of regulated aircraft. Since the construction of the 337,900 square foot terminal, passengers are limited to 8.4 million per year with 73 average daily departures (up to the year 2006). Regularly scheduled aircraft which generate less than 86 dB SENEL (Single Event Noise Equivalent Level) are exempt from daily flight restrictions but are subject to the passenger limitations.

Despite the future increase in air traffic from John Wayne, ultimate CNEL contours will be very similar to 1985 CNEL contours with implementation of the Master Plan and ANCLUC (Airport Noise Control and Land Use Compatibility). As shown in Figure 32, a small portion of Costa Mesa is within by the 60 dB and greater CNEL contours, and most of that area is zoned for industrial uses.

The Costa Mesa Police Department maintains three helicopters for aerial surveillance. The helipad is located at the Civic Center on Fair Drive. Under normal circumstances, only one helicopter is in the air at a given time. Hours of operation are between 11:00 a.m. and 3:00 a.m. Depending on altitude and speed, noise levels generated by the craft under normal conditions range from 61 dB(A) to 65 dB(A). These levels are exceeded upon landing and taking off from the Civic Center helipad for refueling, and in rare instances when landing or extremely low altitudes are required elsewhere in the City.

Three additional private heliports are located in north Costa Mesa at the following locations:

- Los Angeles Times, 1375 Sunflower Avenue
- Security Pacific, 555 Anton Boulevard
- Tridair Helicopter, 3000 Airway Avenue

The City regulates the siting of helipads in the City through a Conditional Use Permit. The City requires an analysis to identify potential noise impacts and the City may regulate the hours of operation and arrival, departure/arrival routes, and type of helicopters which may use the heliport in order to minimize impacts to sensitive land uses.

CNEL NOISE CONTOURS JOHN WAYNE AIRPORT 1989 AND 2005

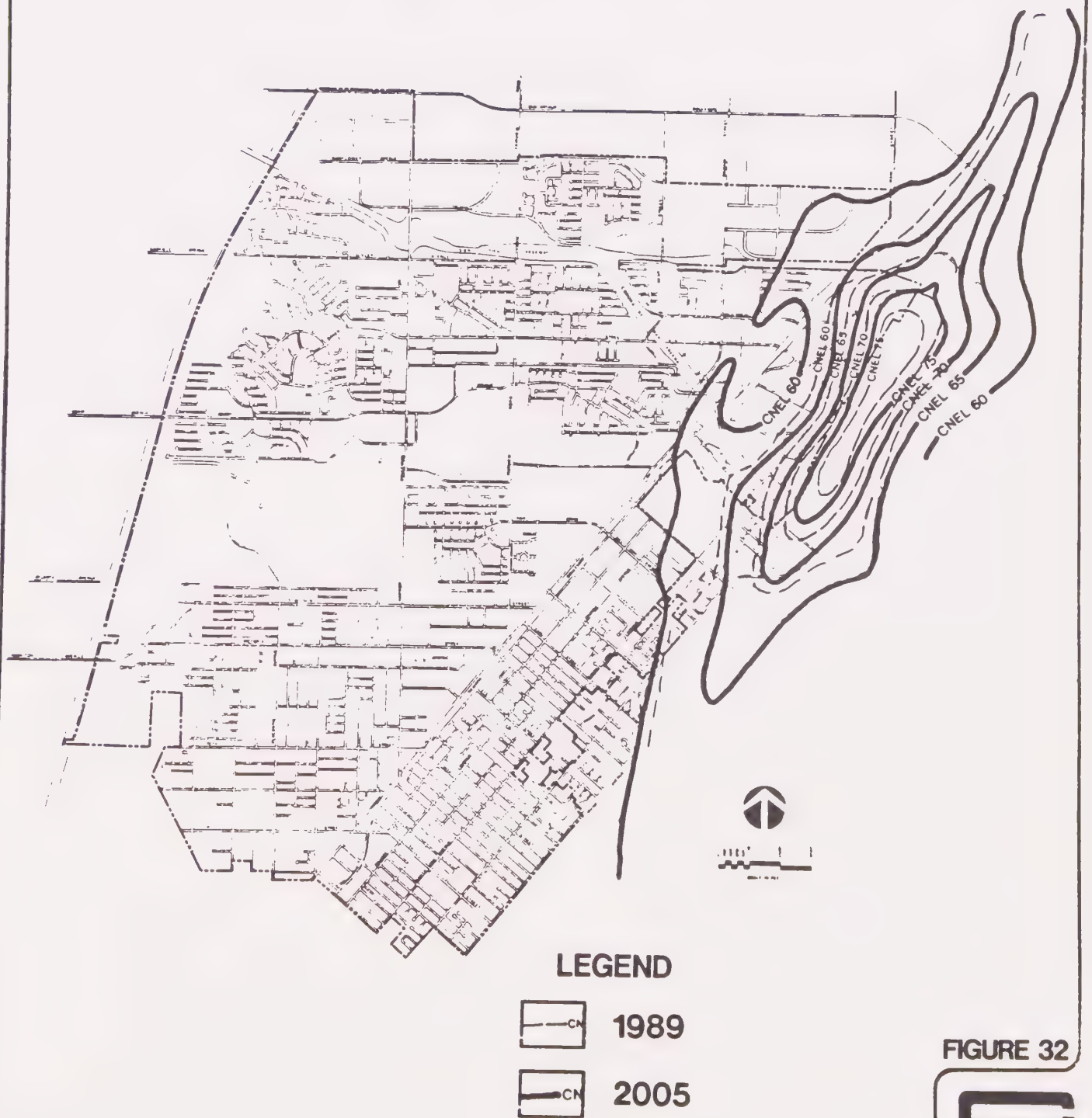


FIGURE 32



Ambient Noise

In order to describe the ambient or background noise level throughout the City, a number of noise measurement samples were taken. The locations chosen were a mix of public schools, preschools (child care centers), hospitals, convalescent homes and a senior housing development. The numerous locations shown in Figure 33 were distributed throughout the City in order to provide an overall picture of the noise environment.

The noise measurement locations also functioned as noise sensitive indicators. These noise sensitive indicators are uses, such as schools and hospitals, which have a lower tolerance for noise than do industrial and commercial activities or normal residential uses. Noise levels measured at these locations are reported in Table 26.

The noise data indicate a few more increases than decreases in noise levels since 1978. Previous comparisons of noise measurements taken in 1971 and 1976-78 found that noise levels had increased overall an average of 0.7 dB(A) per year. Comparison of the 1978 and 1987 data indicate that noise levels may be continuing to increase at a lower rate per year. However, differences between the 1978 and 1987 data, at some locations, may be due in part to different placement of the noise monitor and/or differences in time of day the monitoring was done during the two sampling periods. It should also be noted that some locations with large increases in L_{eq} or L_{90} measurements were affected by road or aircraft noise.

NOISE EFFECTS

The adverse impact of noise on humans covers a wide range from mere annoyance to actual physical and psychological damage. Many of the sounds associated with, and even essential to, everyday life in urbanized areas are detrimental to some degree. Perhaps the most common impact is the annoyance factor. The quiet enjoyment of almost every urban dweller's home or patio has been interrupted at least once by sirens, barking dogs, motorcycles, lawnmowers, aircraft or a host of other noise generators. At somewhat higher levels concentration can be broken and conversations interrupted. Table 27 shows levels at which these annoyances are likely to occur.

TABLE 27

LEVELS OF NOISE ANNOYANCE

<u>Effect</u>	<u>Noise Level dB(A)</u>
Pain	140-150
Hearing damage or loss	75-85
Physiological effects other than hearing	65-75
Speech interference	50-60
Sleep interruption	35-45

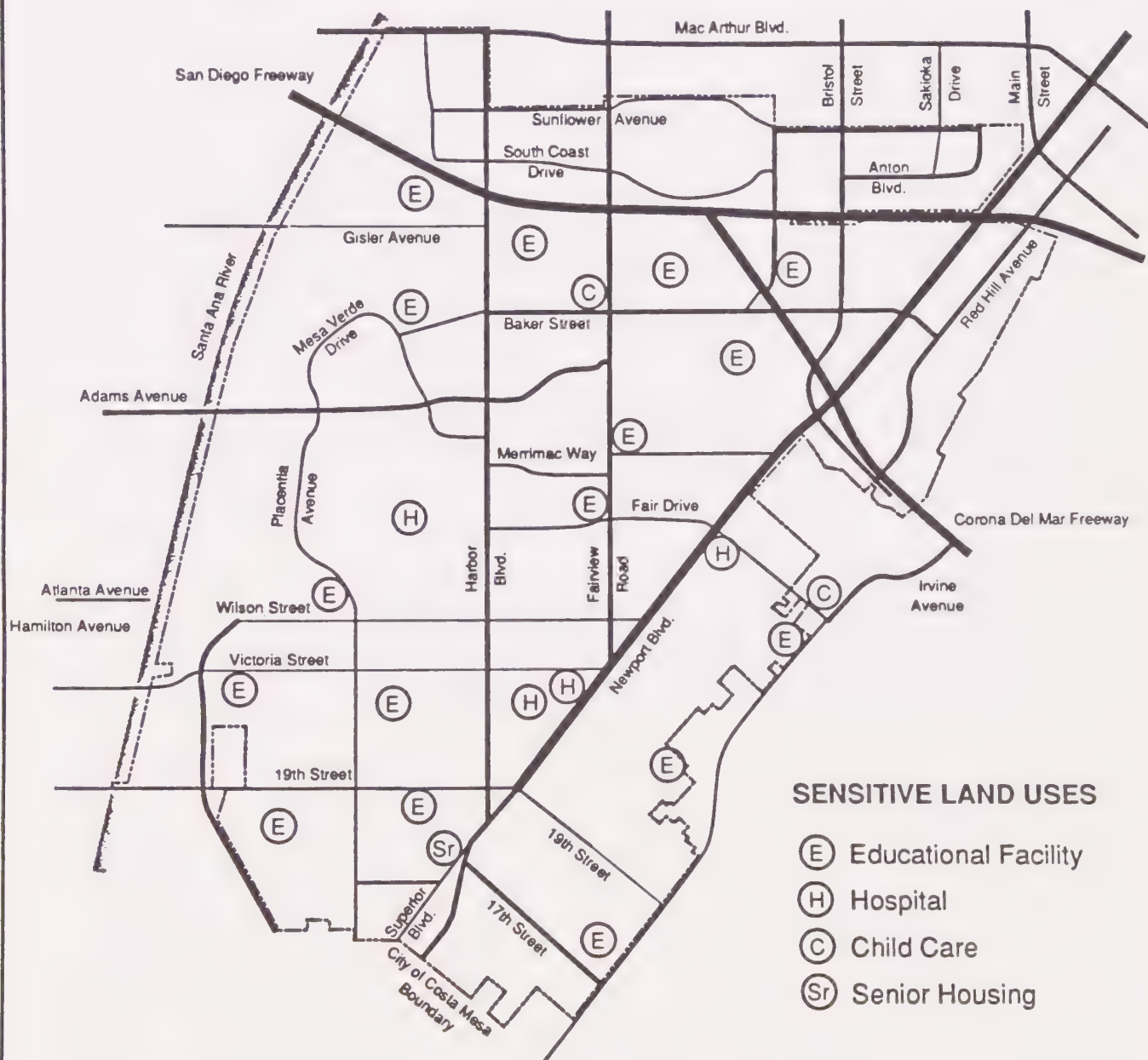
Source: California Department of Public Health, "Report to 1971 Legislature."

TABLE 26
COMPARISON OF NOISE MEASUREMENTS

Location	1978		1987	
	L_{eq}^1	L_{90}^2	L_{eq}^1	L_{90}^2
1. California School	53	47	53.8	52
2. Mesa Verde School	56	51	56.2	50
3. Killybrooke School	46	40	55	50
4. Harbor Trinity Preschool	--	--	66.1	54
5. Paularino School	57	47	57	49
6. Bear Street School	59	54	65.6	61
7. Sonora School	55	47	57	49
8. Costa Mesa High School	56	52	68.6	54
9. Fairview Community Church Preschool	--	--	59.3	54
10. Port Mesa Convalescent Hospital	73	57	72.7	63
11. Monte Vista School	63	51	70.5	62
12. University Montessori	--	--	68.2	60
13. Costa Mesa Memorial Hospital	59	52	58.7	53
14. Bayview Convalescent Hospital	56	53	--	--
15. Casa Bella Senior Housing	--	--	65.1	50
16. Harper School	--	--	61.1	47
17. Whittier School	59	51	56.5	48
18. Pomona School	56	51	57.5	49
19. Victoria School	66	58	61.2	53
20. Estancia High School	57	50	58.4	52
21. Fairview State Hospital	55	50	54.7	51
22. Heinz Kaiser School	52	48	63	51
23. Mardan School	--	--	70.7	60

-
1. L_{eq} is the level of the average noise energy over the sample period.
 2. L_{90} is the noise level equalled or exceeded 90% of the time.

Noise Sensitive Land Uses



SENSITIVE LAND USES

- (E) Educational Facility
- (H) Hospital
- (C) Child Care
- (Sr) Senior Housing



NORTH

FIGURE 33



Sleep interference is a documented effect of noise. While some sounds may actually awaken people, or prevent them from getting to sleep, lower noise levels may cause subconscious interference with sleep. This often prevents people from remaining in the deeper levels of sleep and, although not fully awakened, they may experience unusual fatigue the following day. Evidence indicates that continued sleep interference has a harmful psychological and physiological effect on humans. Studies also indicate that people never really fully adapt to sleep interference.

While noise causing sleep interference can be harmful over the long term, higher level sounds can cause considerably greater physiological damage in shorter periods of time. Temporary or permanent hearing loss or impairment can result from repeated exposure to high noise levels or from brief exposure to very high levels.

Excessive noise levels have secondary effects in addition to direct psychological and physiological impacts on humans. These include the economic ramifications of high noise exposure, especially on residential properties. A home in a noise impacted area will normally command a lower sales price than the same home in a quiet environment, assuming all other factors are equal. Homes located along noisy highways or adjacent to major airports are generally considered less desirable than comparable homes which are not subject to these impacts.

Noise Effects In Costa Mesa

According to a public opinion poll conducted in Costa Mesa in 1984, 12% of the respondents thought there was too much noise. Of those 12%, approximately one-third were concerned about noise generated by the Pacific Amphitheatre, one-third thought there was too much airplane or police helicopter noise, and one-third responded with miscellaneous or general noise comments.

Although the results of the poll do not indicate a significant broad-based noise problem in the City, there are some locations which are subject to considerable noise impacts. These consist primarily of areas adjacent to major streets, the John Wayne Airport or the Pacific Amphitheater. Construction noise may be experienced at various times in almost any part of the City. This is only a temporary impact, however, and the City's Noise Ordinance prohibits construction activities during the more sensitive hours between 8:00 p.m. and 7:00 a.m.

Noise from operations at John Wayne Airport affects mainly industrial and commercial properties in Costa Mesa. No residences are within the 65 dB CNEL or greater contour. Figure 32 depicts the 1989 and 2005 noise contours for the airport.

Because of the nature of the operation, police helicopter noise may impact any location in the City at any time between 11:00 a.m. and 3:00 a.m. Overflights are usually brief, lasting only a few seconds. Noise exposures of several minutes may occur when circling a crime scene. Although helicopter noise levels are not

extremely high in either case, they may be sufficient to cause sleep interruption during nighttime hours.

Surface traffic noise has the greatest impact on the noise environment of Costa Mesa's residential properties. Sixty and 65 dB CNEL contours are common along City streets; freeways and major street expose adjacent areas to levels of 70 dB CNEL or greater.

Factors Affecting Roadway Noise

The noise levels adjacent to line sources of noise such as roadways increase by 3.0 dBA with each doubling in the traffic volume (provided that the speed and truck mix do not change). From the mathematical expression relating increases in the number of noise sources (motor vehicles) to the increase in the adjacent noise level, it can be shown that a 26 percent increase in the traffic volume will cause a 1.0 dBA increase in adjacent noise levels. Doubling the number of vehicles on a given route increases the adjacent noise levels by 3.0 dBA, but changing the vehicle speed has an even more dramatic effect.

Increasing the vehicle speed from 35 to 45 mph raises the adjacent noise levels approximately 2.7 dBA. Raising the speeds from 45 to 50 mph increases adjacent noise levels by 1.0 dBA. A speed increase from 50 mph to 55 mph increases adjacent noise levels by 0.9 CNEL. Consequently, lowering motor vehicle speeds can have a significant positive impact in terms of reducing adjacent noise levels.

The truck mix on a given roadway also has a significant effect on the adjacent noise levels. As the number of trucks increases and becomes a larger percentage of the total vehicle volume, the adjacent noise levels increase. This effect is more pronounced if the number of heavy duty (3+ axle) trucks is large when compared to the number of medium duty (2 axle) trucks.

Noise levels adjacent to roadways vary with the volume of traffic, the mean vehicular speed, the truck mix, and the road cross section. Figure 34 provides a nomograph for each roadway type which allows the CNEL at either 50 or 100 feet to be determined from the daily two-way traffic volume and the speed of the vehicles. For example, a major arterial roadway carrying 10,000 ADT with a posted speed limit of 50 mph would generate approximately 63.7 CNEL at 100 feet. Lowering the speed to 45 mph would reduce the CNEL at 100 feet to 62.5 dBA. Similarly, at a speed of 40 mph, the CNEL at 100 feet would be 61.3 dBA.

Figure 35 illustrates the effects of the truck mix on adjacent noise levels. As shown, a major arterial street carrying 10,000 ADT at 45 mph would generate 62.5 CNEL at 100 feet if the truck mix were 2.58% of the ADT. The CNEL would increase to 65.3 dBA at 100 feet if the truck mix were 10 percent of the ADT. A 5 percent truck mix would result in 63.7 CNEL at 100 feet.

Typical Noise Levels Versus Speed and Volume

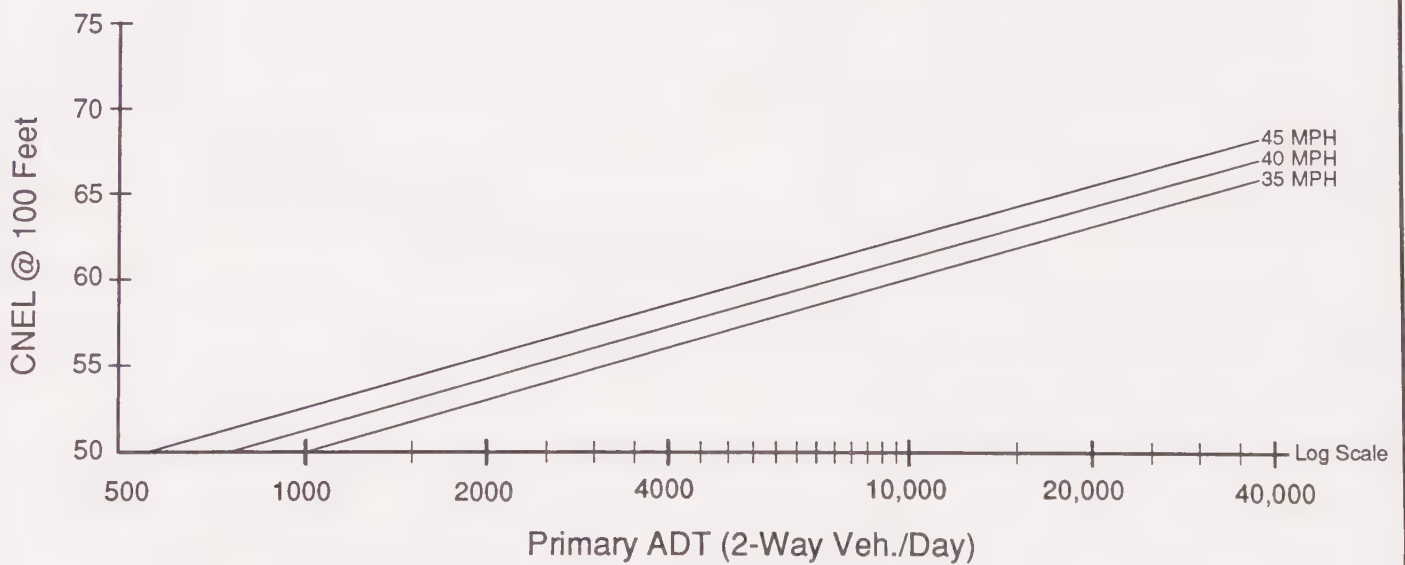
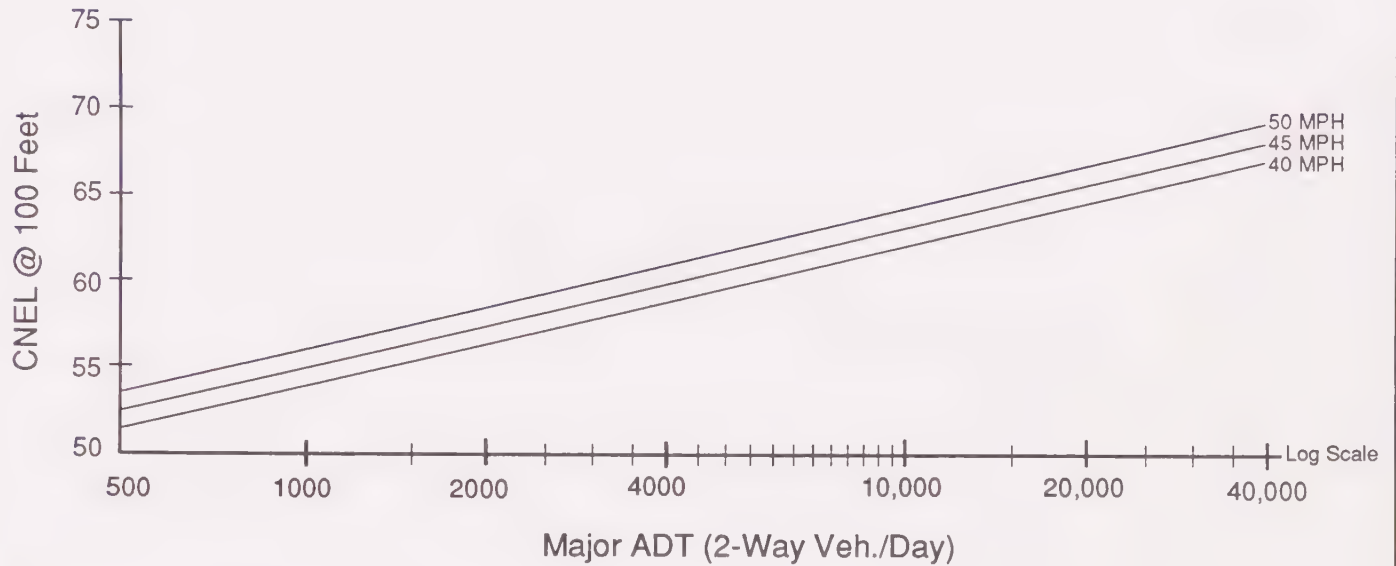


FIGURE 34A



Typical Noise Levels Versus Speed and Volume

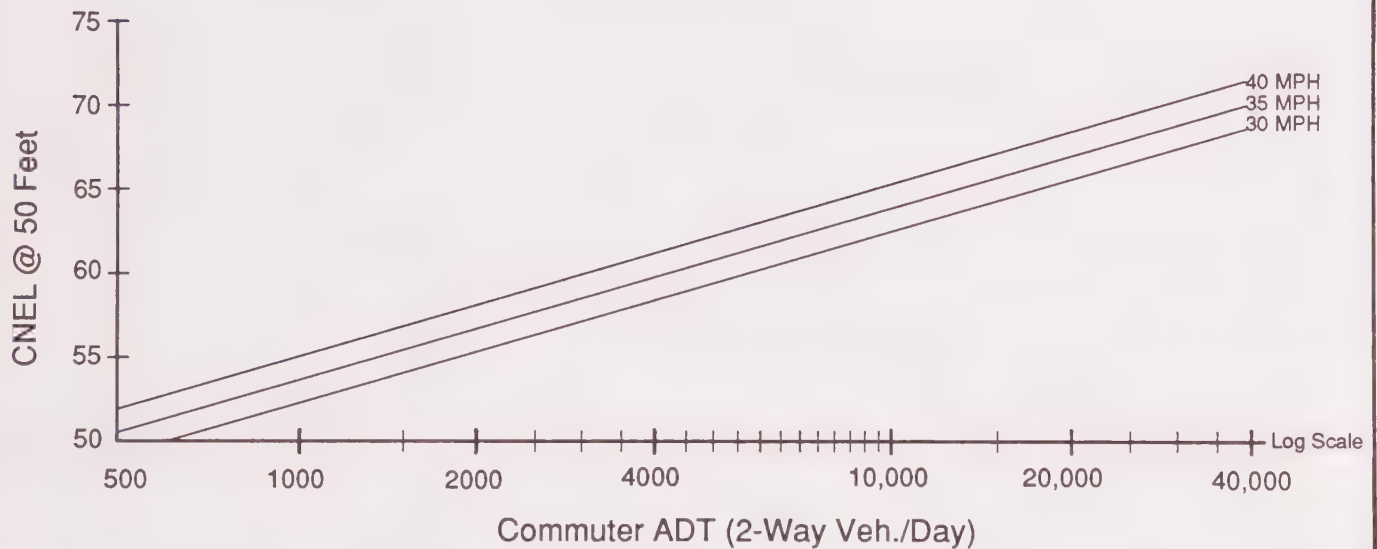
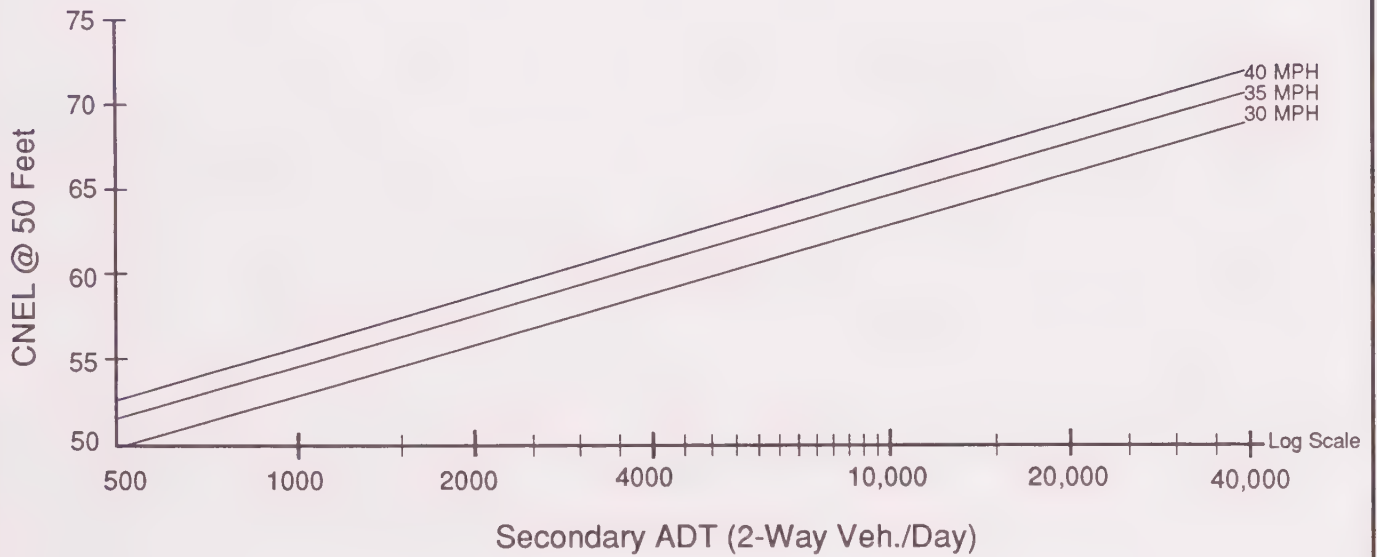


FIGURE 34B



Effects of Truck Mix on CNEL at 45 mph

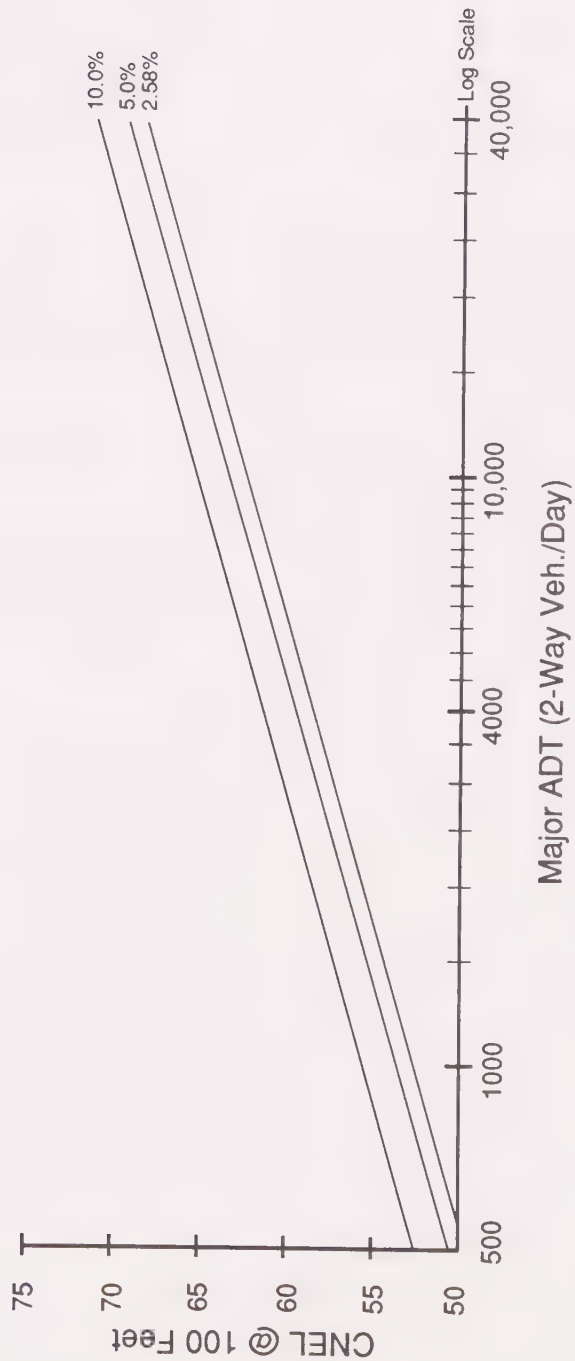


FIGURE 35



Sensitive Noise Receptors

A comparison of the current sensitive noise receptor locations shown in Figure 33 to the noise levels included at the end of this subelement reveals the location of potential incompatibilities between land use and noise exposure. Figures 36a-c illustrate the relationship of the sensitive noise receptors to the nearby roadway and the projected future noise contours after General Plan buildout.

Of the receptors identified in Table 26 and located in Figure 33, each receptor located near a master planned roadway link was analyzed for potential noise impacts. For example, Costa Mesa High School is located along Fairview Road between Adams Avenue and Fair Drive. Sensitive receptors identified in Table 26 adjacent to master planned roadways that are not included in Figures 36a-c were set back from the roadway and outside of the 60 CNEL contour.

Figures 36a-c also illustrate the distance from the roadway centerline to each receptor and the unattenuated exterior noise level at each receptor location. Using Costa Mesa High School as an example, it can be seen that the building lies approximately 75 feet from the Fairview Road centerline at its closest point. The unattenuated exterior noise level is between 70 and 75 CNEL at this location. Given that noise is logarithmic rather than linear in nature, the building at its closest point to the street will probably be exposed to 74 dBA.

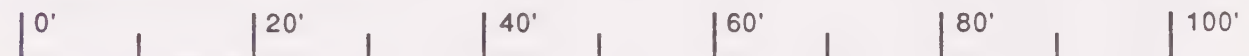
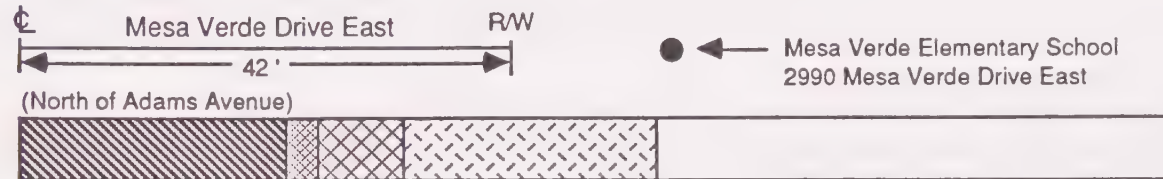
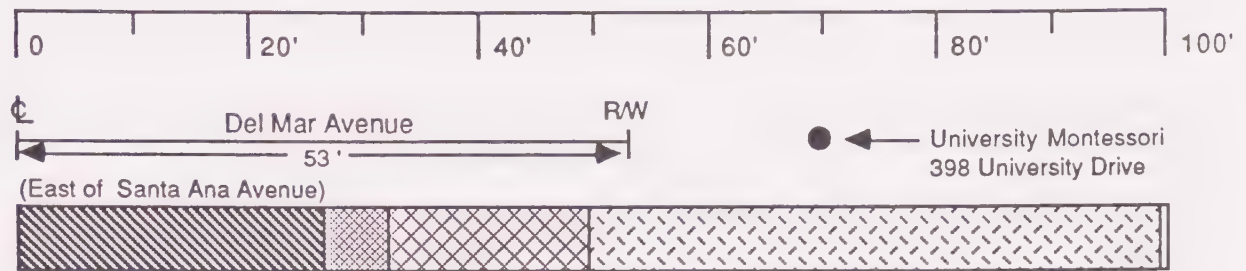
Review of the City of Costa Mesa land use compatibility guidelines and the future noise exposures in Figures 36a-c shows that nine of the fourteen sensitive receptors analyzed are expected to be impacted by roadway noise upon General Plan buildout.

Design Noise Levels

It is recommended that the ultimate noise contours depicted in Table 31 be used for planning purposes and refined when detailed site-specific acoustic reports are prepared for new developments. Until that time, Figure 37 can be used as a general planning guide to determine the potential "worst case" future noise levels and the setbacks required to insure an acceptable noise environment for planned land uses.

Figure 37 provides design noise levels adjacent to typical major, primary and secondary arterials. The nomograph assumes the ultimate daily design capacity for each roadway type as well as typical design speed and a 2.58 percent truck mix. Figure 37 can be used to determine the CNEL contours between 50 and 300 feet from the roadway centerlines assuming flat terrain and no intervening barriers or buildings.

Future Noise Exposure Of Sensitive Receptors



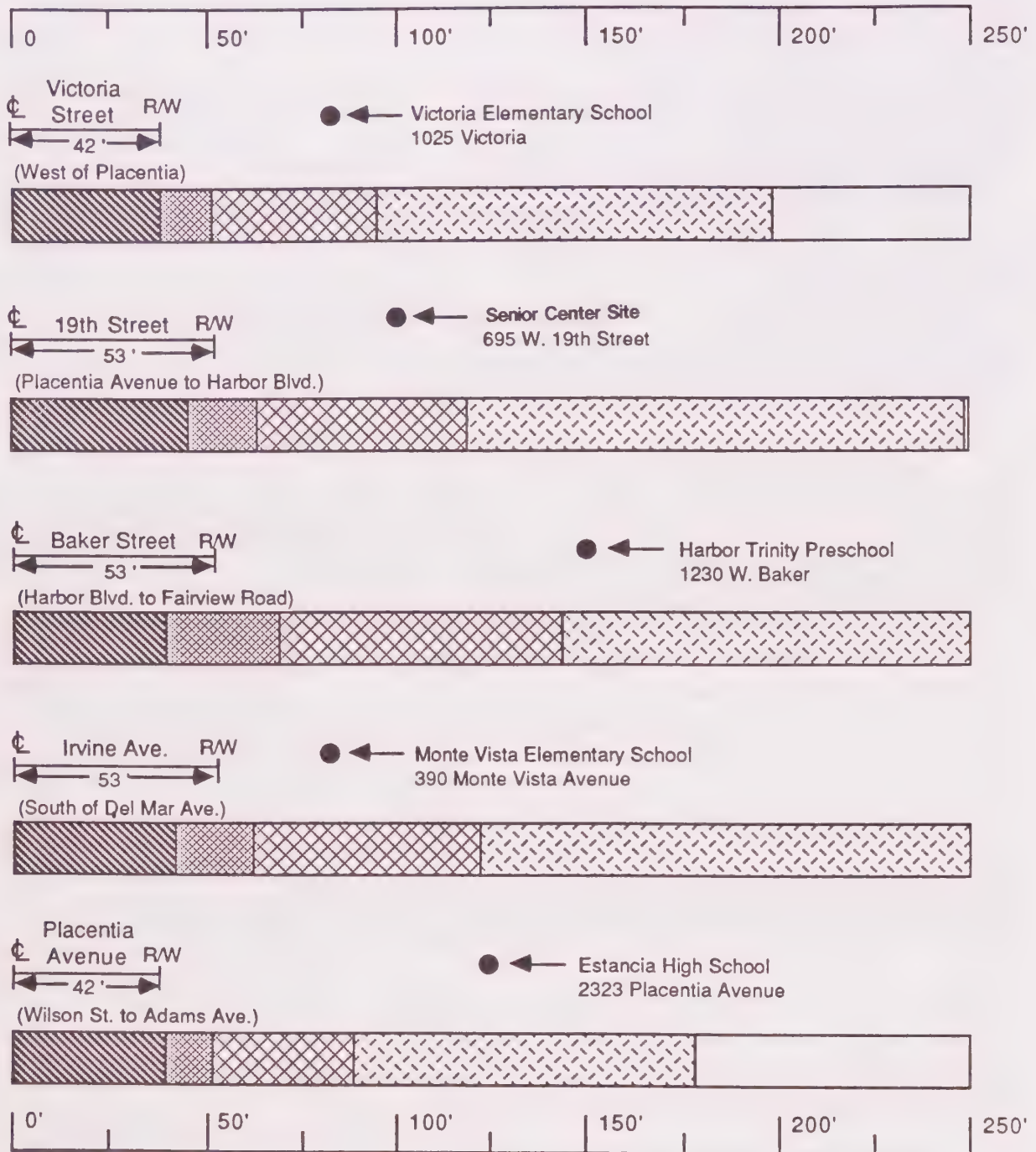
LEGEND



FIGURE 36A



Future Noise Exposure Of Sensitive Receptors



LEGEND



Source: Endo Engineering

FIGURE 36B



Future Noise Exposure Of Sensitive Receptors

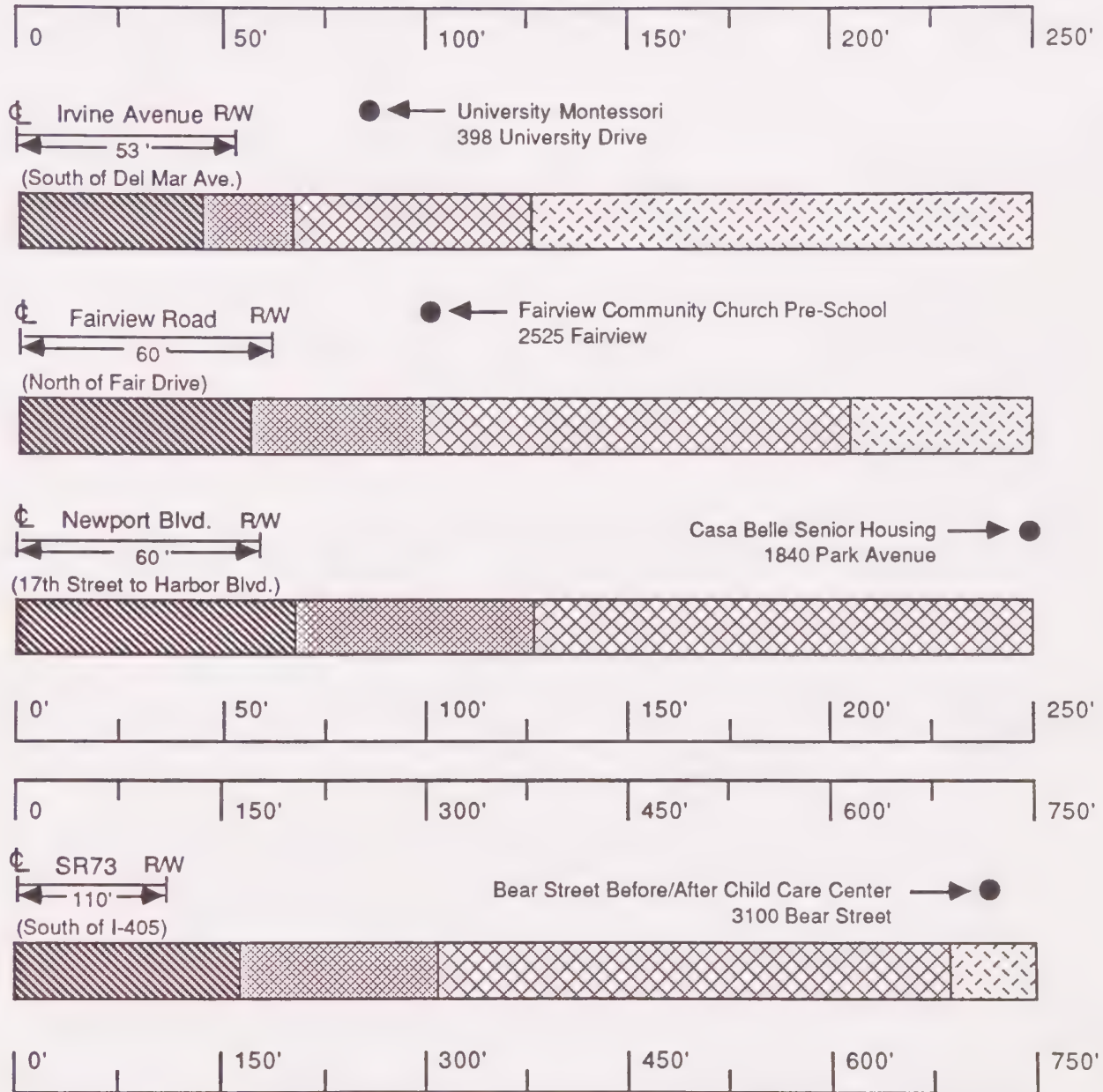


FIGURE 36C

LEGEND



Source: Endo Engineering



Design Noise Levels for City of Costa Mesa

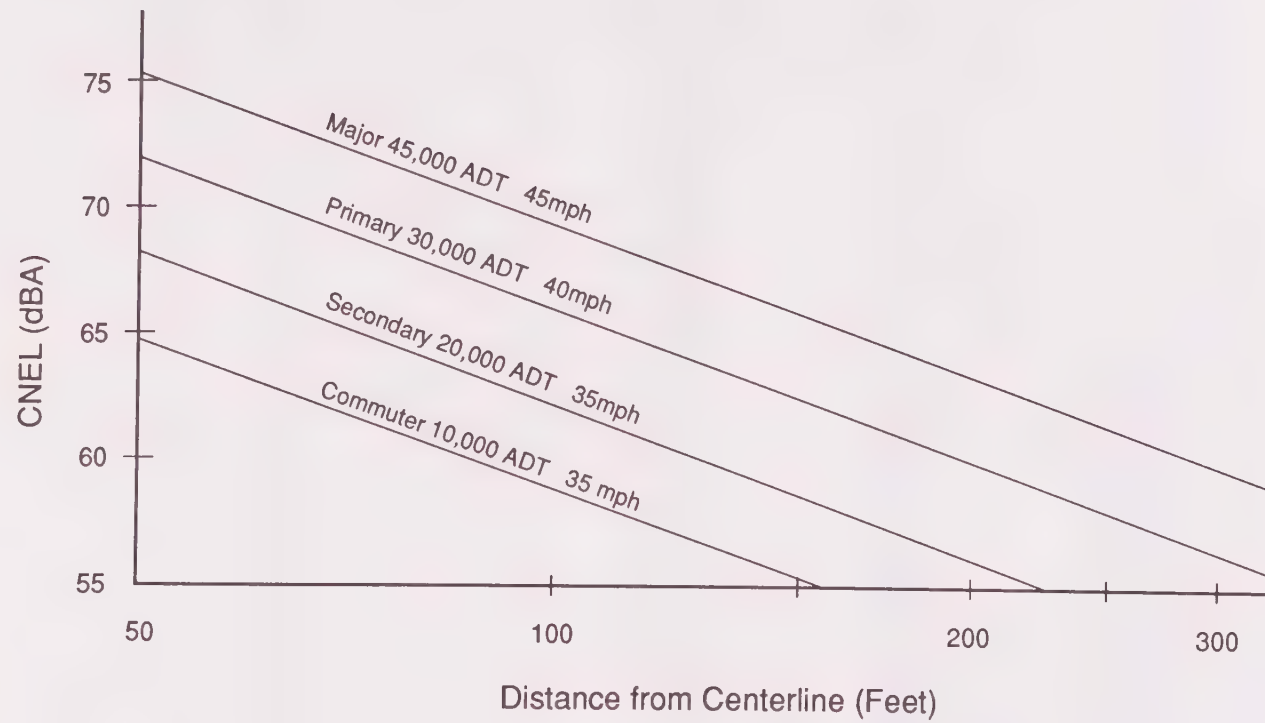


FIGURE 37

NOISE REDUCTION MEASURES

Noise impacts can be mitigated in three basic ways: by reducing the sound level of the noise generator, by increasing the distance between the source and receiver, and by insulating the receiver. Some of these considerations are included in State and Federal noise standards which preempt further local regulation. Tables 28 and 29 summarize standards adopted by various State and Federal agencies.

Although standards have been established for control of vehicle noise, most police agencies place priority on enforcement of potentially accident-causing violations and normally become involved only in occasional blatant noise violations.

Due to preemption by higher agencies, local governments are prevented from establishing noise standards for motor vehicles and aircraft. Cities, however, may regulate noise levels of most other sources and may provide standards for insulation of noise receivers (either within the structure or by placement of noise barriers such as walls). Through land use decisions, cities may reduce noise impacts by separating noise generators from noise sensitive uses.

Noise reduction can be accomplished by placement of walls, landscaped berms, or a combination of the two, between the noise source and the receiver. Generally, effective noise shielding requires a solid barrier with a mass of at least four pounds per square foot of surface area which is large enough to block the line of sight between source and receiver. Variations may be appropriate in individual cases based on distance, nature and orientation of buildings behind the barrier, and a number of other factors. Garages or other buildings may be used to shield dwelling units and outdoor living areas from traffic noise.

In addition to site design techniques, noise insulation can be accomplished through proper design of buildings. Nearby noise generators should be recognized in determining the location of doors, windows and vent openings. Sound-rated windows (extra thick or multi-paned) and wall insulation are also effective. None of these measures, however, can realize their full potential unless care is taken in actual construction: doors and windows fitted properly; openings sealed; joints caulked; plumbing adequately insulated from structural members. And, of course, sound-rated doors and windows will have little effect if left open. This may require installation of air conditioning for adequate ventilation. The chain of design, construction and operation is only as effective as its weakest link.

Landscaping is often proposed as a means of noise reduction; in reality it is quite ineffective. A dense growth of evergreen trees and shrubs 50 feet high and 100 feet in depth is required to achieve a reduction of about 6 or 7 decibels. This is seldom, if ever, practical in an urban environment. There are three ways in which landscaping may have some effect on noise reduction. First, some sound may be absorbed by sufficient, yet practical, depths of

Table 28

STATE NOISE STANDARDS

<u>Description</u>		<u>Maximum Noise Level (dB(A) at 50 ft.)</u>	
1.	Motor Vehicle operation, under any conditions, may not exceed the following levels:	35 MPH or Less	Over 35 MPH
a.	Gross vehicle weight (GVW) greater than 10,000 lbs.	86	90
b.	Motorcycle	45 MPH or Less	Over 45 MPH
c.	Others	82	86
2.	Motor Vehicle operation on grades of 1% or less may not exceed the following levels.*	76	82
a.	GVW greater than 6,000 lbs	35 MPH or Less	Over 35 MPH
b.	Motorcycle	82	See 1. above
c.	Others	77	See 1. above
3.	New Motor Vehicles for sale must comply with the following:	74	See 1. above
	Manufactured before - 1973		92
		1973-1974	88
	Manufactured after - 1974		86
4.	New Motor Vehicles for sale are further restricted as follows:		
a.	GVW greater than 6,000 lbs.		
	Manufactured - 1968-1972		88
		1973-1974	86
		1975-1977	83
b.	GVW 6,000 - 8,500 lbs.		
	Manufactured after - 1977		80
c.	GVW over 8,500 lbs.		
	Manufactured - 1978-1981		83
	Manufactured after - 1981		80
d.	Motorcycles		
	Manufactured before - 1970		92
		1970-1972	88
		1973-1974	86
		1975-1980	83
		1981-1985	80
		1986-1989	75
	Manufactured after - 1989		70
e.	Others		
	Manufactured - 1968-1972		86
		1973-1974	84
	Manufactured after - 1974		80
5.	Airport Noise - Maximum Exposure in Residential Areas		
a.	New airports		65 CNEL
b.	Existing airports until December 31, 1985		70 CNEL
	after December 31, 1985		65 CNEL
6.	Residential Noise Insulation Standards (hotels, motels, apartments, dwellings other than single-family detached)		
a.	Maximum interior noise level (Analysis required if within 60 CNEL contour)		45 CNEL
b.	Noise transmission between units: minimum IIC (Impact Insulation Class - Floor/Ceiling)		50
	And STC (Sound Transmission Class - Walls)		50
	(IIC 45 or STC 45 if field tested)		

*(Measured at least 200 feet from controlled intersection or grade exceeding 1%)

Table 29

FEDERAL NOISE STANDARDS

1.	Vehicles - 35 mph or less		
	Manufactured	1978-1981	83 dB(A)
	Manufactured after	1981	80 dB(A)
2.	Industry		
	(Occupational Safety and Health Act (OSHA) of 1970)		
	Businesses engaged in interstate commerce		
	Maximum Exposure - 8 hours		90 dB(A)
	6 hours		92 dB(A)
	4 hours		95 dB(A)
	3 hours		97 dB(A)
	2 hours		100 dB(A)
	1 hour		105 dB(A)
3.	Highway Planning and Design (Federal Highway Administration (FHWA) Criteria)		
a.	Areas where serenity is of special significance and serves an important public need (amphitheaters, parks, open space, etc.)		L ₁₀ - 60 dB(A) (exterior)
b.	Residences, motels, hotels, schools, libraries, hospitals, churches, auditoriums, public meeting rooms, picnic areas, active recreation areas		L ₁₀ - 70dB(A) (exterior)
c.	Other		L ₁₀ - 70 dB(A) (exterior)
d.	Residences, motels, hotels, schools, libraries, hospitals, churches, auditoriums, public meeting rooms		L ₁₀ - 55 dB(A) (interior)

foliage. The effect is not appreciable, however, as only about 3 to 4 dB may be lost in the high frequency ranges, and even less at the low end of the scale. Second, to the extent landscaping reduces wind velocity, it may also reduce the level of sound carried by the wind. Under the proper conditions, reductions of up to 7 or 8 dBA may be realized. The third, and perhaps most effective application of landscaping to noise reduction is its psychological impact. Basically, this is an "out of sight - out of mind" phenomenon where the perceived noise level may be as much as 5 decibels less when the source cannot be seen, even though no difference may be registered on measurement instruments.

Noise impacts can be reduced by insulating noise sensitive uses, such as residences, schools, libraries, hospitals, nursing and carehomes and some types of commercial activities. But perhaps a more efficient approach involves limiting the level of noise generation at the source. State and Federal statutes have largely preempted local control over vehicular noise emissions but commercial and industrial operations and certain residential activities provide opportunities for local government to assist in noise abatement. Local ordinances may establish maximum levels for noise generated on-site. This usually takes the form of limiting the level of noise permitted to leave the property where it may impact other uses.

Although vehicular noise emissions standards are established at the State and Federal levels, local agencies can play a significant part in reducing traffic noise by controlling traffic volume and congestion. Traffic noise is greatest at intersections due to acceleration, deceleration and gear shifting. Measures such as signal synchronization can help to minimize this problem. Likewise, reduction of congestion aids in reduction of noise. This can be accomplished through the application of traffic engineering techniques such as channelization of turning movements, parking restrictions, separation of modes (bus, auto, bicycle, pedestrian) and restrictions on truck traffic.

Noise reduction through reduction of traffic volumes can also be accomplished through incentives for use of public transit facilities and high-occupancy vehicles, staggering of work hours and land use controls. Vehicle trips can be turned into pedestrian trips by integration of housing and employment into the same project or area, construction of high density, affordable housing in proximity to employment, shopping and public transit facilities and other techniques.

Noise levels decrease with distance. For a point source (industry, construction site, etc.) a doubling of distance will produce a 6 dB reduction in sound level. For a line source (street or highway) a doubling of distance will produce a reduction of 3 to 4.5 dB depending on ground surface characteristics. An effective means of providing low noise levels in residential areas, then, is to locate these areas sufficiently far from high noise sources. This applies especially to streets, highways, and airports. A secondary benefit of this approach is that buildings in those areas located closer to

the street will provide additional noise screening. One row of two-story buildings will provide a reduction of about 10 dB(A) at some locations. These considerations should be included in decisions relating to land use patterns and establishment of circulation routes.

NOISE CONTOURS

The following tables provide existing noise contours (Table 30) and noise contours at General Plan buildout (Table 31) along all of the City's major and primary arterials and the three freeways that traverse the City. Noise contours for selected secondary and commuter streets are also included. The tables indicate traffic volumes on designated street segments as depicted on Figure 38.

The tables display the average daily traffic volume (ADT), noise levels at 100 and 50 feet from the roadway centerline or 200 and 150 feet from the freeway centerlines, and the distance from the roadway centerline to the 70, 65 and 60 dBA CNEL contours.

Roadway Links Modeled

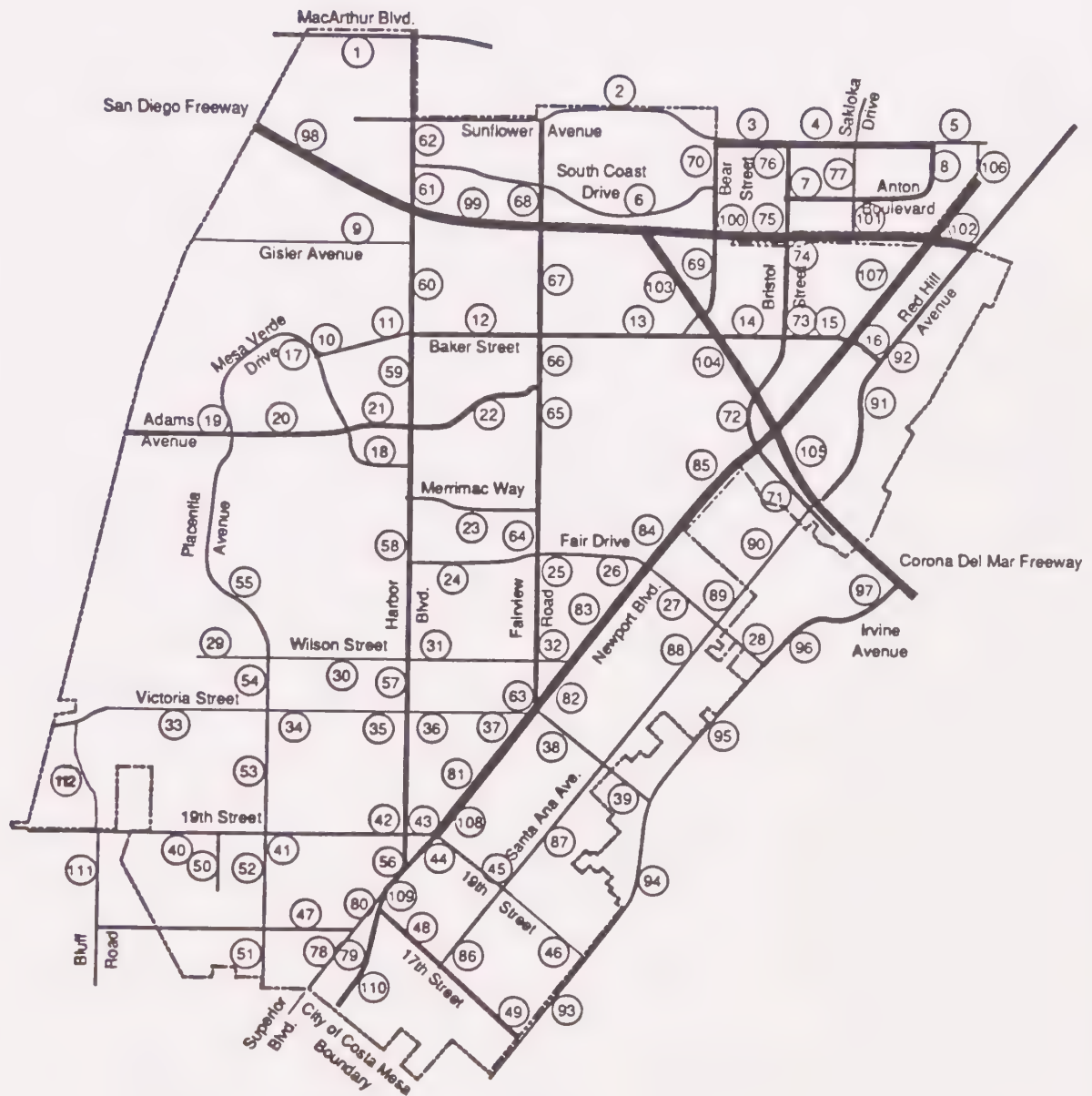


FIGURE 38



Source: Endo Engineering

Scale: 1" = 4,500'



Table 30
EXTERIOR NOISE EXPOSURE ADJACENT TO NEARBY ROADWAYS
1988

<u>Roadway</u>	<u>A.D.T.¹ (Veh./Day)</u>	<u>CNEL @ 100/50 Ft.²</u>	<u>70 dBA</u>	<u>Distance to Contours (Ft.)³</u>	
				<u>65 dBA</u>	<u>60 dBA</u>
MacArthur Boulevard					
1. West of Harbor Blvd.	24,000	64.7/69.8	49	96	201
Sunflower Avenue					
2. West of Bear Street	16,000	64.1/69.3	46	88	184
3. East of Bear Street	27,000	68.0/75.5	79	150	313
4. East of Bristol Street	23,000	67.1/73.4	69	134	281
5. East of Anton Blvd.	19,000	66.3/72.5	64	120	249
South Coast Drive					
6. East of Fairview Road	22,000	64.3/69.4	R/W	90	189
Anton Boulevard					
7. East of Bristol Street	18,000	62.2/68.5	45	70	136
8. South of Sunflower Ave.	7,000	58.1/64.4	R/W	48	78
Gisler Avenue					
9. West of Harbor Blvd.	13,000	60.6/65.7	R/W	R/W	109
Baker Street					
10. East of Mesa Verde Dr.	9,000	57.4/62.5	R/W	R/W	69
11. West of Harbor Blvd.	17,000	63.4/69.7	R/W	R/W	162
12. West of Fairview Road	24,000	65.9/71.0	57	114	241
13. West of Bear Street	32,000	67.1/72.3	67	136	290
14. West of Bristol Street	16,000	64.3/70.6	52	91	185
15. West of SR-55	19,000	65.1/71.4	56	101	208
16. West of Red Hill Ave.	12,000	63.1/69.4	R/W	78	155
Mesa Verde Drive					
17. North of Adams Avenue	7,000	57.9/63.1	R/W	R/W	74
18. South of Adams Avenue	13,000	62.0/67.2	R/W	66	134
Adams Avenue					
19. West of Placentia Ave.	37,000	70.2/76.5	103	211	450
20. West of Mesa Verde Dr.	35,000	70.0/76.3	100	205	436
21. West of Harbor Blvd.	28,000	66.8/73.0	67	128	268
22. East of Harbor Blvd.	24,000	66.3/73.8	66	119	243
Merrimac Way					
23. West of Fairview Road	8,000	58.5/63.6	R/W	R/W	R/W
Fair Drive					
24. West of Fairview Road	11,000	61.4/67.7	R/W	64	121
25. East of Fairview Road	21,000	65.5/71.8	R/W	107	221
26. West of Newport Blvd.	15,000	64.0/70.3	R/W	89	179
Del Mar Avenue					
27. East of Newport Blvd.	6,000	55.6/60.8	R/W	33	55
28. East of Santa Ana Ave.	4,000	53.8/59.0	R/W	R/W	45
Wilson Street					
29. West of Placentia Ave.	6,000	53.7/58.9	R/W	29	44
30. East of Placentia Ave.	26,000	63.6/68.8	R/W	82	170
31. East of Harbor Blvd.	18,000	62.0/67.2	R/W	66	134
32. West of Newport Blvd.	6,000	57.2/62.4	R/W	38	68

1. A.D.T. means average daily two-way traffic volume.

2. CNEL values are calculated at 100 feet and 50 feet from the centerline. RW means the CNEL falls within the right-of-way and is not applicable.

3. All distances are measured from the centerline. R/W means the contour falls within the right-of-way.

Table 30
EXTERIOR NOISE EXPOSURE ADJACENT TO NEARBY ROADWAYS
1988
(Continued)

		A.D.T. ¹	CNEL @ ²	Distance to Contours (Ft.) ³		
Roadway		(Veh./Day)	100/50 Ft.	70 dBA	65 dBA	60 dBA
Victoria Street						
33.	West of Placentia Ave.	19,000	63.5/68.7	43	81	168
34.	East of Placentia Ave.	15,000	62.5/67.7	39	70	144
35.	West of Harbor Blvd.	16,000	62.8/68.0	40	73	151
36.	East of Harbor Blvd.	17,000	63.0/68.2	41	75	156
37.	West of Newport Blvd.	19,000	63.8/70.0	50	85	171
22nd Street						
38.	East of Newport Blvd.	9,000	57.4/62.5	R/W	39	69
39.	East of Santa Ana Ave.	6,000	55.6/60.8	26	33	55
19th Street						
40.	West of Placentia Ave.	11,000	59.8/65.0	R/W	50	97
41.	East of Placentia Ave.	19,000	63.8/70.0	50	85	171
42.	West of Harbor Blvd.	22,000	64.4/70.7	53	92	187
43.	West of Newport Blvd.	13,000	62.1/68.4	R/W	69	134
44.	East of Newport Blvd.	10,000	59.8/66.1	40	55	97
45.	West of Santa Ana Ave.	8,000	58.9/65.1	R/W	51	87
46.	West of Irvine Avenue	6,000	57.4/62.6	R/W	39	69
17th Street						
47.	West of Superior Ave.	16,000	62.8/68.0	R/W	73	151
48.	West of Santa Ana Ave.	27,000	65.0/70.2	R/W	100	211
49.	West of Irvine Avenue	24,000	64.5/69.7	R/W	93	195
Monrovia Avenue						
50.	South of 19th Street	8,000	58.3/63.0	R/W	R/W	77
Placentia Avenue						
51.	South of 17th Street	18,000	64.6/69.8	49	94	198
52.	South of 19th Street	22,000	64.5/70.8	53	94	190
53.	South of Victoria St.	26,000	66.2/71.4	59	119	253
54.	South of Wilson St.	18,000	64.6/69.8	49	94	198
55.	North of Wilson St.	18,000	63.6/69.9	R/W	83	167
Harbor Boulevard						
56.	North of Newport Blvd.	34,000	73.9	74	144	303
57.	North of Victoria St.	50,000	76.3	86	169	355
58.	North of Wilson Street	43,000	76.3	86	169	355
59.	North of Adams Avenue	54,000	77.3	97	195	413
60.	North of Baker Street	55,000	77.4	99	198	419
61.	North of I-405 Freeway	50,000	77.0	94	187	394
62.	North of S. Coast Dr.	46,000	75.2	87	174	369
Fairview Road						
63.	North of Newport Blvd.	27,000	66.6/72.9	66	125	260
64.	North of Fair Drive	29,000	66.9/73.2	68	130	272
65.	South of Adams Avenue	36,000	68.0/75.6	79	150	314
66.	North of Adams Avenue	48,000	69.1/75.4	89	179	380
67.	North of Baker	44,000	68.7/75.0	84	169	358
68.	North of I-405 Freeway	47,000	70.2/76.5	103	211	450
Bear Street						
69.	South of I-405 Freeway	31,000	67.4/74.9	74	138	287
70.	South of Sunflower Ave.	17,000	64.6/70.9	54	95	193

1. A.D.T. means average daily two-way traffic volume.

2. CNEL values are calculated at 100 feet and 50 feet from the centerline. RW means the CNEL falls within the right-of-way and is not applicable.

3. All distances are measured from the centerline. R/W means the contour falls within the right-of-way.

Table 30
EXTERIOR NOISE EXPOSURE ADJACENT TO NEARBY ROADWAYS
1988
(Continued)

<u>Roadway</u>	<u>A.D.T.¹</u> <u>(Veh./Day)</u>	<u>CNEL @²</u> <u>100/50 Ft.</u>	<u>Distance to Contours (Ft.)³</u>		
			<u>70 dBA</u>	<u>65 dBA</u>	<u>60 dBA</u>
Bristol Street					
71. West of Santa Ana Ave.	25,000	67.6/75.2	75	142	296
72. North of Newport Blvd.	26,000	66.6/74.2	68	124	255
73. North of Baker Street	28,000	66.9/74.5	70	129	266
74. South of I-405 Freeway	33,000	67.6/75.2	75	142	296
75. North of I-405 Freeway	60,000	70.2/77.8	103	207	438
76. South of Sunflower Ave.	50,000	69.5/77.0	R/W	187	394
Sakioka Drive					
77. South of Sunflower Ave.	3,000	55.9/62.1	R/W	42	61
Superior Avenue					
78. South of 17th Street	16,000	63.0/69.3	47	77	153
Newport Boulevard					
79. South of 17th Street	59,000	70.2/77.7	103	207	438
80. North of 17th Street	71,000	71.0/78.5	114	233	495
81. North of 19th Street	66,000	70.2/75.0	103	219	471
Newport Boulevard/SR-55 Freeway					
82. North of 22nd Street	94,000	71.7/76.6	129	276	593
83. North of Wilson Street	73,000	70.6/75.5	109	233	501
84. North of Fair Drive	93,000	71.7/76.5	129	276	593
85. South of Bristol St.	92,000	66.3/68.2	114	244	524
Santa Ana Avenue					
86. North of 17th Street	8,000	58.3/63.0	R/W	R/W	77
87. North of 19th Street	7,000	57.7/62.4	R/W	R/W	71
88. South of Del Mar Ave.	6,000	57.1/61.8	R/W	R/W	65
89. North of Del Mar Ave.	9,000	58.8/63.5	R/W	40	85
90. South of Bristol St.	13,000	60.6/65.7	R/W	55	109
Red Hill Avenue					
91. South of Baker Street	19,000	67.0/71.7	64	135	291
92. North of Baker Street	18,000	66.7/71.4	61	129	278
Irvine Avenue					
93. South of 19th Street	30,000	64.4/69.4	47	89	187
94. South of 22nd Street	32,000	64.3/68.8	42	90	193
95. South of Del Mar Ave.	33,000	64.8/71.1	55	97	199
96. North of Del Mar Ave.	33,000	64.8/71.1	55	97	199
97. South of Bristol St.	28,000	63.7/68.2	38	82	176
I-405 Freeway					
98. West of Harbor Blvd.	233,000	74.7/76.6	407	874	1881
99. East of Harbor Blvd.	228,000	74.6/76.6	401	860	1852
100. West of Bristol St.	202,000	74.1/76.0	371	797	1715
101. East of Bristol St.	201,000	74.0/75.9	368	791	1703
102. East of SR-55 Freeway	227,000	75.4/77.8	458	987	2127
SR-73 Freeway					
103. South of I-405 Freeway	62,000	70.1/72.3	203	415	802
104. West of SR-55 Freeway	64,000	70.2/72.4	205	421	896
105. East of SR-55 Freeway	71,000	69.9/72.2	197	402	856
SR-55 Freeway					
106. North of I-405 Freeway	102,000	69.7/71.5	191	411	887
107. South of I-405 Freeway	198,000	73.3/75.5	322	685	1471

1. A.D.T. means average daily two-way traffic volume.
2. CNEL values are calculated at 100 feet and 50 feet from the centerline. RW means the CNEL falls within the right-of-way and is not applicable.
3. All distances are measured from the centerline. R/W means the contour falls within the right-of-way.

Table 31

ULTIMATE EXTERIOR NOISE EXPOSURE ADJACENT TO NEARBY ROADWAYS
(POST 2010)

Roadway	A.D.T. ¹	CNEL @	70 dBA	Distance to Contours (Ft.) ³	
	(Veh./Day)	100/50 Ft. ²		65 dBA	60 dBA
MacArthur Boulevard					
1. West of Harbor Blvd.	37,000	66.8/73.0	67	128	268
Sunflower Avenue					
2. West of Bear Street	32,000	67.1/72.3	67	136	290
3. East of Bear Street	38,000	68.3/75.8	81	157	329
4. East of Bristol Street	42,000	68.5/74.8	82	164	347
5. East of Anton Blvd.	50,000	68.0/74.2	77	153	322
South Coast Drive					
6. East of Fairview Road	18,000	60.4/65.5	R/W	54	106
Anton Boulevard					
7. East of Bristol Street	32,000	64.7/71.0	54	96	196
8. South of Sunflower Ave.	16,000	61.7/68.0	R/W	66	127
Gisler Avenue					
9. West of Harbor Blvd.	23,000	57.4/62.6	R/W	R/W	69
Baker Street					
10. East of Mesa Verde Dr.	17,000	56.1/61.2	R/W	R/W	58
11. West of Harbor Blvd.	29,000	58.6/64.9	R/W	50	83
12. West of Fairview Road	36,000	66.5/72.8	65	123	256
13. West of Bear Street	39,000	65.1/70.3	52	101	214
14. West of Bristol Street	33,000	67.5/73.8	73	142	298
15. West of SR-55	44,000	67.4/73.7	72	140	294
16. West of Red Hill Ave.	38,000	65.3/71.5	57	104	214
Mesa Verde Drive					
17. North of Adams Avenue	12,000	54.6/59.7	R/W	R/W	49
18. South of Adams Avenue	16,000	59.9/65.0	R/W	50	99
Adams Avenue					
19. West of Placentia Ave.	45,000	67.5/73.8	73	142	298
20. West of Mesa Verde Dr.	40,000	67.0/73.3	69	132	277
21. West of Harbor Blvd.	35,000	67.7/74.0	75	146	307
22. East of Harbor Blvd.	31,000	66.1/73.6	65	116	236
Merrimac Way					
23. West of Fairview Road	1,000	46.0/51.1	R/W	R/W	R/W
Fair Drive					
24. West of Fairview Road	22,000	62.9/69.2	R/W	76	150
25. East of Fairview Road	24,000	63.3/69.6	R/W	80	159
26. West of Newport Blvd.	28,000	63.9/70.2	51	87	174
Del Mar Avenue					
27. East of Newport Blvd.	25,000	59.9/65.1	R/W	R/W	99
28. East of Santa Ana Ave.	24,000	59.8/64.9	R/W	50	97
Wilson Street					
29. West of Placentia Ave.	13,000	59.0/64.1	R/W	45	87
30. East of Placentia Ave.	26,000	60.1/65.3	R/W	52	101
31. East of Harbor Blvd.	30,000	62.6/67.8	R/W	71	147
32. West of Newport Blvd.	24,000	61.6/66.8	R/W	62	126

1. A.D.T. means average daily two-way traffic volume.

2. CNEL values are calculated at 100 feet and 50 feet from the centerline. RW means the CNEL falls within the right-of-way and is not applicable.

3. All distances are measured from the centerline. R/W means the contour falls within the right-of-way.

Table 31
ULTIMATE EXTERIOR NOISE EXPOSURE ADJACENT TO NEARBY ROADWAYS
(POST 2010)
(Continued)

Roadway	A.D.T. ¹ (Veh./Day)	CNEL @ ² 100/50 Ft.	Distance to Contours (Ft.) ³			
			70 dBA	65 dBA	60 dBA	
Victoria Street						
33.	West of Placentia Ave.	29,000	63.9/69.0	45	85	178
34.	East of Placentia Ave.	20,000	63.7/68.9	44	83	173
35.	West of Harbor Blvd.	24,000	64.5/69.7	48	93	195
36.	East of Harbor Blvd.	19,000	63.5/68.7	43	81	168
37.	West of Newport Blvd.	27,000	65.3/71.6	57	104	214
22nd Street						
38.	East of Newport Blvd.	22,000	63.1/69.4	R/W	78	155
39.	East of Santa Ana Ave.	13,000	59.0/64.1	R/W	45	87
19th Street						
40.	West of Placentia Ave.	27,000	60.3/65.4	R/W	53	104
41.	East of Placentia Ave.	25,000	64.9/71.2	55	99	202
42.	West of Harbor Blvd.	30,000	65.7/72.0	60	110	227
43.	West of Newport Blvd.	34,000	63.1/69.3	R/W	78	155
44.	East of Newport Blvd.	25,000	63.8/70.1	R/W	85	171
45.	West of Santa Ana Ave.	24,000	63.6/69.9	R/W	83	167
46.	West of Irvine Avenue	13,000	60.7/65.9	R/W	56	111
17th Street						
47.	West of Superior Ave.	23,000	61.4/67.6	R/W	64	121
48.	West of Santa Ana Ave.	25,000	61.7/68.0	R/W	66	127
49.	West of Irvine Avenue	21,000	61.0/67.3	R/W	62	115
Monrovia Avenue						
50.	South of 19th Street	6,000	53.6/58.3	R/W	R/W	39
Placentia Avenue						
51.	South of 17th Street	26,000	63.4/68.6	43	80	165
52.	South of 19th Street	28,000	65.2/70.4	52	103	217
53.	South of Victoria St.	32,000	65.8/71.0	56	112	238
54.	South of Wilson St.	31,000	64.6/70.9	54	95	193
55.	North of Wilson St.	23,000	63.3/69.6	R/W	80	159
Harbor Boulevard						
56.	North of Newport Blvd.	28,000	66.8/73.0	67	128	268
57.	North of Victoria St.	50,000	69.5/77.0	94	187	394
58.	North of Wilson Street	47,000	69.2/76.7	90	179	377
59.	North of Adams Avenue	52,000	66.8/74.4	69	127	262
60.	North of Baker Street	60,000	67.4/75.0	74	138	287
61.	North of I-405 Freeway	72,000	73.3/80.9	157	329	704
62.	North of S. Coast Dr.	50,000	71.7/79.3	125	258	551
Fairview Road						
63.	North of Newport Blvd.	38,000	68.1/74.4	78	155	327
64.	North of Fair Drive	52,000	69.6/77.2	95	189	400
65.	South of Adams Avenue	52,000	69.6/77.2	95	189	400
66.	North of Adams Avenue	66,000	67.8/75.4	77	146	305
67.	North of Baker	71,000	66.3/72.5	64	120	249
68.	North of I-405 Freeway	64,000	67.7/75.3	76	144	300
Bear Street						
69.	South of I-405 Freeway	37,000	63.4/69.7	49	81	162
70.	South of Sunflower Ave.	42,000	68.7/76.2	85	166	349

1. A.D.T. means average daily two-way traffic volume.

2. CNEL values are calculated at 100 feet and 50 feet from the centerline. RW means the CNEL falls within the right-of-way and is not applicable.

3. All distances are measured from the centerline. R/W means the contour falls within the right-of-way.

Table 31

ULTIMATE EXTERIOR NOISE EXPOSURE ADJACENT TO NEARBY ROADWAYS
(POST 2010)
(Continued)

Roadway	A.D.T. ¹ (Veh./Day)	CNEL @ ² 100/50 Ft.	70 dBA	Distance to Contours (Ft.) ³ 65 dBA	60 dBA
Bristol Street					
71. West of Santa Ana Ave.	32,000	64.7/72.2	58	96	192
72. North of Newport Blvd.	46,000	66.3/73.8	66	119	243
73. North of Baker Street	51,000	66.7/74.3	69	125	258
74. South of I-405 Freeway	67,000	67.9/75.5	78	148	309
75. North of I-405 Freeway	85,000	67.2/74.8	72	134	278
76. South of Sunflower Ave.	48,000	68.0/75.5	79	150	314
Sakioka Drive					
77. South of Sunflower Ave.	9,000	59.2/65.5	R/W	R/W	90
Superior Avenue					
78. South of 17th Street	27,000	63.8/70.1	50	85	171
Newport Boulevard					
79. South of 17th Street	27,000	65.5/73.0	61	107	216
80. North of 17th Street	36,000	70.3/77.8	104	210	445
81. North of 19th Street	32,500	68.2/72.9	76	163	349
Newport Boulevard/SR-55 Freeway ⁴					
82. North of 22nd Street	72,000/ 139,000	80.0/—	231	302	466
83. North of Wilson Street	23,500/ 159,000	70.6/—	202	255	384
84. North of Fair Drive	37,000/ 151,000	74.0/—	264	503	1055
SR-55 Freeway					
85. South of Bristol St.	209,000	73.5/75.5	335	714	1535
Santa Ana Avenue					
86. North of 17th Street	7,000	54.3/59.0	R/W	R/W	43
87. North of 19th Street	5,000	50.6/55.3	R/W	R/W	R/W
88. South of Del Mar Ave.	8,000	54.8/59.5	R/W	R/W	46
89. North of Del Mar Ave.	14,000	57.3/62.0	R/W	33	67
90. South of Bristol St.	27,000	62.1/67.3	R/W	67	136
Red Hill Avenue					
91. South of Baker Street	25,000	64.9/71.2	55	99	202
92. North of Baker Street	35,000	66.4/72.7	64	121	253
Irvine Avenue					
93. South of 19th Street	27,000	65.4/71.7	58	106	217
94. South of 22nd Street	28,000	65.6/71.8	59	109	224
95. South of Del Mar Ave.	34,000	66.4/72.7	64	121	253
96. North of Del Mar Ave.	34,000	66.4/72.7	64	121	253
97. South of Bristol St.	36,000	66.4/71.6	61	123	260
I-405 Freeway					
98. West of Harbor Blvd.	269,000	75.7/77.9	453	967	2079
99. East of Harbor Blvd.	253,000	75.4/77.7	433	924	1985
100. West of Bristol St.	196,000	74.3/76.6	368	781	1677
101. East of Bristol St.	208,000	74.5/76.8	379	805	1730
102. East of SR-55 Freeway	218,000	75.3/77.5	427	910	1955
SR-73 Freeway					
103. South of I-405 Freeway	123,000	72.9/75.0	304	644	1383
104. West of SR-55 Freeway	126,000	73.0/75.1	308	654	1405
105. East of SR-55 Freeway	166,000	73.4/75.6	327	695	1494
SR-55 Freeway					
106. North of I-405 Freeway	210,000	73.0/75.1	310	661	1422
107. South of I-405 Freeway	131,000	71.4/73.5	245	518	1113
108. North of 19th Street	139,000	69.6/71.6	189	395	845
109. North of 17th Street	118,000	68.9/70.9	171	355	759
110. North of 15th Street	105,000	68.3/70.4	158	325	692
Bluff Road					
111. South of 19th Street	20,000	62.7/69.0	R/W	75	146
112. North of 19th Street	23,000	63.3/69.6	R/W	80	159

1. A.D.T. means average daily two-way traffic volume.

2. CNEL values are calculated at 100 feet and 50 feet from the centerline. RW means the CNEL falls within the right-of-way and is not applicable.

3. All distances are measured from the centerline. R/W means the contour falls within the right-of-way.

4. Combined CNEL value given at 200 feet from the SR-55 Freeway centerline.

GOALS, OBJECTIVES AND POLICIES

The goals, objectives and policies that address noise concerns are as follows:

GOAL II: ENVIRONMENTAL PROTECTION AND PRESERVATION

It is the goal of the City of Costa Mesa to protect its citizens and property from injury, damage, or destruction from environmental hazards, including hydrologic, geologic, and climatic episodes, and to work towards the improved noise abatement and improved air and water quality.

Objective II-C: Control noise levels within the City for the protection of residential areas and other sensitive land uses from excessive and unhealthful noise.

90. Require, as a part of the environmental review process, that full consideration be given to the existing and projected noise environment.
91. Establish maximum acceptable exterior noise levels for residential areas of 65 CNEL.
92. Give full consideration to the existing and projected noise environment when considering alterations to the City's circulation system and Master Plan of Highways.
93. Encourage CalTrans to construct noise attenuation barriers along State freeways and highways adjoining residential and other noise sensitive areas.
94. Provide necessary equipment and training to enforce the Noise Ordinance using existing City Staff for initial field check of noise complaints.
95. Contract with private companies for enforcement of the Noise Ordinance in those cases where Staff and equipment demands exceed City resources.
96. Consider noise emission levels in the acquisition and use of new equipment and machinery purchased by the City.
97. Ensure that appropriate site design measures are incorporated into residential developments, when required by an acoustical study, to obtain appropriate exterior and interior noise levels. When necessary, require field testing at the time of project completion to demonstrate compliance.
98. Apply the standards contained in Title 24 of the California Administrative Code as applicable to the construction of all new dwelling units.

99. Require field testing of completed residential structures to ensure compliance with Title 24 of the California Administrative Code.
100. Minimize noise impacts upon residential and other noise sensitive land uses.
101. Discourage sensitive land uses from locating in the 65 CNEL noise contour of the John Wayne Airport. Should it be deemed by the City as appropriate and/or necessary for a sensitive land use to locate in the 65 CNEL noise contour, ensure that appropriate interior noise levels are met and that minimal outdoor activities are allowed.
102. Strongly encourage the governor to appoint a Costa Mesa resident to the Orange County Fair Board to better control noise-related impacts of uses and activities within the Fairgrounds.
103. In conjunction with Environmental Impact Reports, assess the potential noise impact associated with increased traffic on surrounding residential and sensitive land uses. When acceptable exterior and interior noise levels are projected to be exceeded, project related impacts shall be mitigated through construction of noise attenuation walls or other measures.
104. Strongly encourage the Orange County Fair Board and other appropriate individuals and/or decision-making bodies to take such action as will bring the Pacific Amphitheater in compliance with all Costa Mesa noise ordinances or noise levels permitted in the City.
105. While maintaining safety, support alternatives for the future of Orange County Airport which will reduce the noise impact of airport operations.

REFERENCES

1. Costa Mesa General Plan Update Air Quality and Noise Analyses. Endo Engineering, May 1991.
2. Noise Abatement Program Quarterly Report for the period October 1, 1989, through December 31, 1989. John Wayne Airport, Orange County.
3. Environmental Manaqement Resources Element, City of Costa Mesa, 1978. .

City of
COSTA MESA

COMMUNITY
DEVELOPMENT/
MANAGEMENT
ELEMENT



Coastal Resources

COASTAL RESOURCES

The nature and quality of life in Costa Mesa, a landlocked community with no direct access to the Pacific Ocean, are greatly influenced by the coastal environment. The City's favorable climate, large marine-related business community, and high summertime traffic volumes and congestion are the result of Costa Mesa's locational proximity to the coast. Also, the range of plant and animal life which live in the lowlands along the Santa Ana River represents extensions of the biotic communities at the mouth of the river.

Because of these relationships, portions of the City have been included in the California Coastal Zone under the jurisdiction of the Coastal Commission. (See Figure 39.) As such, Costa Mesa is responsible for the development of policies and programs to protect and enhance its coastal resources. This section of the General Plan is intended to serve this function by integrating coastal concerns into the overall general planning process for the City.

LOCAL COASTAL PROGRAM

In mandating the preparation of Local Coastal Programs (LCP), the Coastal Act of 1976 does not dictate the precise content of individual LCP's. The only specific directive in the Coastal Act is to include a public access component to assure that maximum public access to the coast and public recreation areas is provided.

The State and Regional Interpretive Guidelines provide additional details regarding the content and processing requirements for LCP's. This portion of the General Plan was prepared to conform to these guidelines in order to fulfill the City's responsibilities to address and protect its coastal resources. Using this approach, the necessary coastal policies and programs can be integrated directly into the City's overall general planning process.

The portion of Costa Mesa within the Coastal Zone represents the central segment of the vacant Santa Ana River lowlands which extend from the coast inland to the northern boundary of the Fairview Park site. These lowlands are also a part of areas administered by the City of Newport Beach and Orange County. Because of this relationship, Costa Mesa's LCP must be coordinated with both Orange County and Newport Beach for the lowland properties to the south. Costa Mesa's efforts are also coordinated with those of Huntington Beach due to the proximity of the jurisdictions and the interrelationship of coastal issues.

COASTAL AREA

The Coastal Zone in Costa Mesa is confined to a relatively small portion of the City (approximately 125 acres, 1.2 percent of the total planning area). Generally, the zone includes the Santa Ana River lowlands south of Victoria Street and extends eastward to include approximately 76 percent of the City's Canyon Park site. These boundaries represent a minor modification of the Coastal Zone

established by the Coastal Act of 1976. The 1976 Coastal Zone totaled approximately 138 acres and included all or portions of six single-family units at the western terminus of Gleneagles Terrace (1.86 acres), a retail nursery site at 2100 Canyon Drive (2.10 acres), the southeasterly half of the 83-unit Sea Bluff Canyons condominium development (6.62 acres), and nine single-family units (2.66 acres) at the end of Republic Avenue. These four areas were removed under the provisions of Assembly Bill 462 at the request of the City in 1979. See Figure 40.

Ownership and Land Uses

A great majority (96 percent) of the Coastal Zone is in public ownership (see Figure 42). Of the total 125.1 acres, approximately 92.6 acres are owned by the County of Orange while 27.3 acres are owned by the City of Costa Mesa. The remaining acreage includes a 5.01-acre parcel immediately adjacent to the Santa Ana River and the northerly 0.23 acres of a 2.3-acre condominium project east of Sundance Drive; both parcels being privately owned.

All of the Coastal Zone except the 0.23 acres east of Sundance Drive is vacant or being developed as passive parks. The property owned by the County of Orange is designated as a portion of the Talbert/Fairview Regional Park site while the City-owned property is being developed as Canyon Park. Both parks would extend beyond the boundaries of the Coastal Zone. The Talbert/Fairview Regional Park will extend to the north, across Victoria Street, and join the Fairview Park site approximately 2700 feet to the north. Canyon Park includes the "fingers" of the canyon south to Arbor Street and east toward Monrovia Avenue.

The larger privately owned parcel is currently landlocked and occupied by an inoperative oil well and two small storage tanks.

General Plan and Zoning

Upon acquisition of the Talbert/Fairview Park site by the County and the Canyon Park site by the City, the City Council initiated a General Plan Amendment (GP-78-1B) to indicate eventual public use of the properties. Figure 44 identifies the General Plan and zoning designations of property within and adjacent to the Coastal Zone.

The larger 5-acre parcel is designated for Public/Semi-Public development by the General Plan. The second parcel carries a Low Density Residential General Plan designation and a PDR-LD zoning classification. This parcel was developed in 1986.

LOCAL SETTING



FIGURE 39



COASTAL ZONE BOUNDARIES 1972/1976

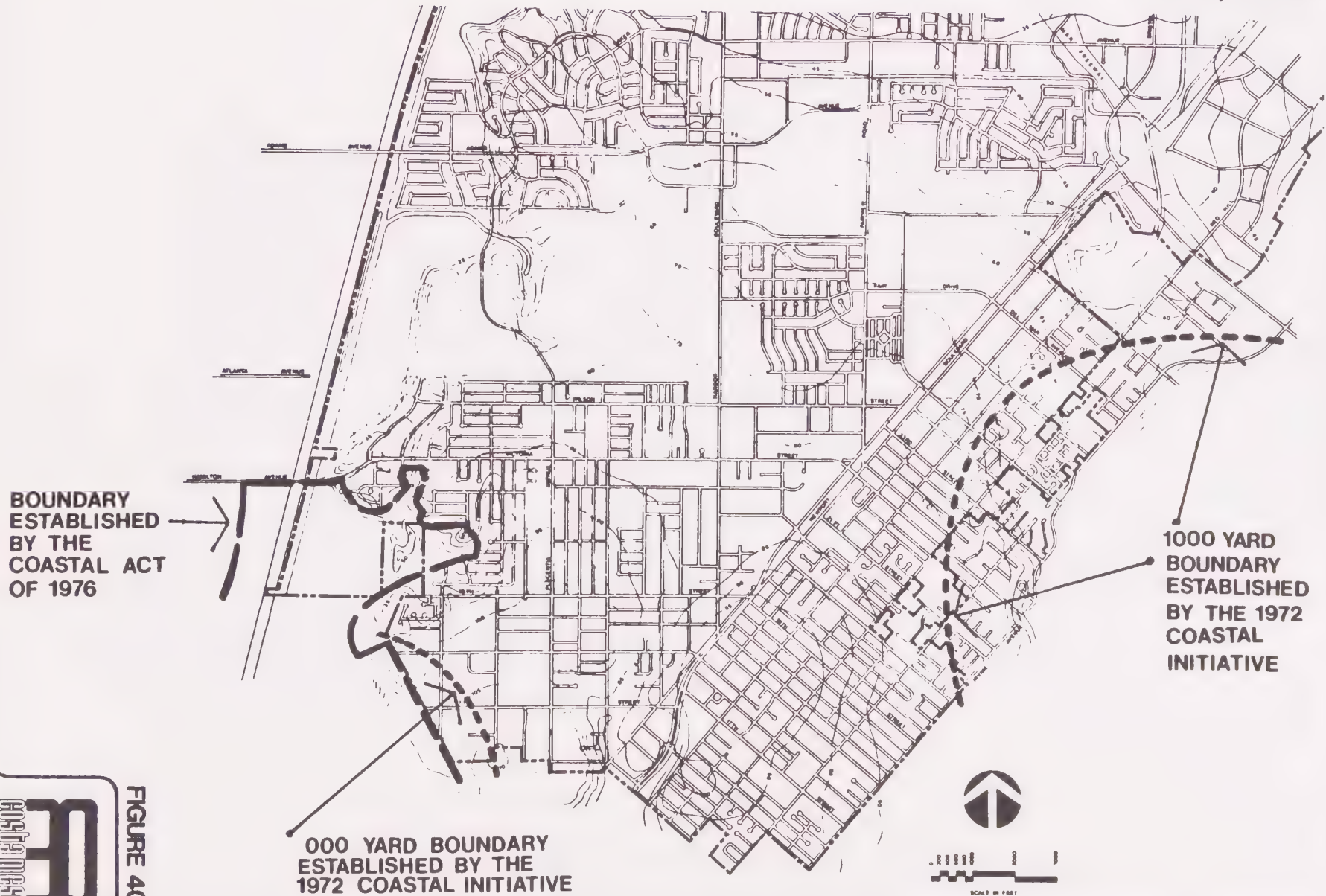
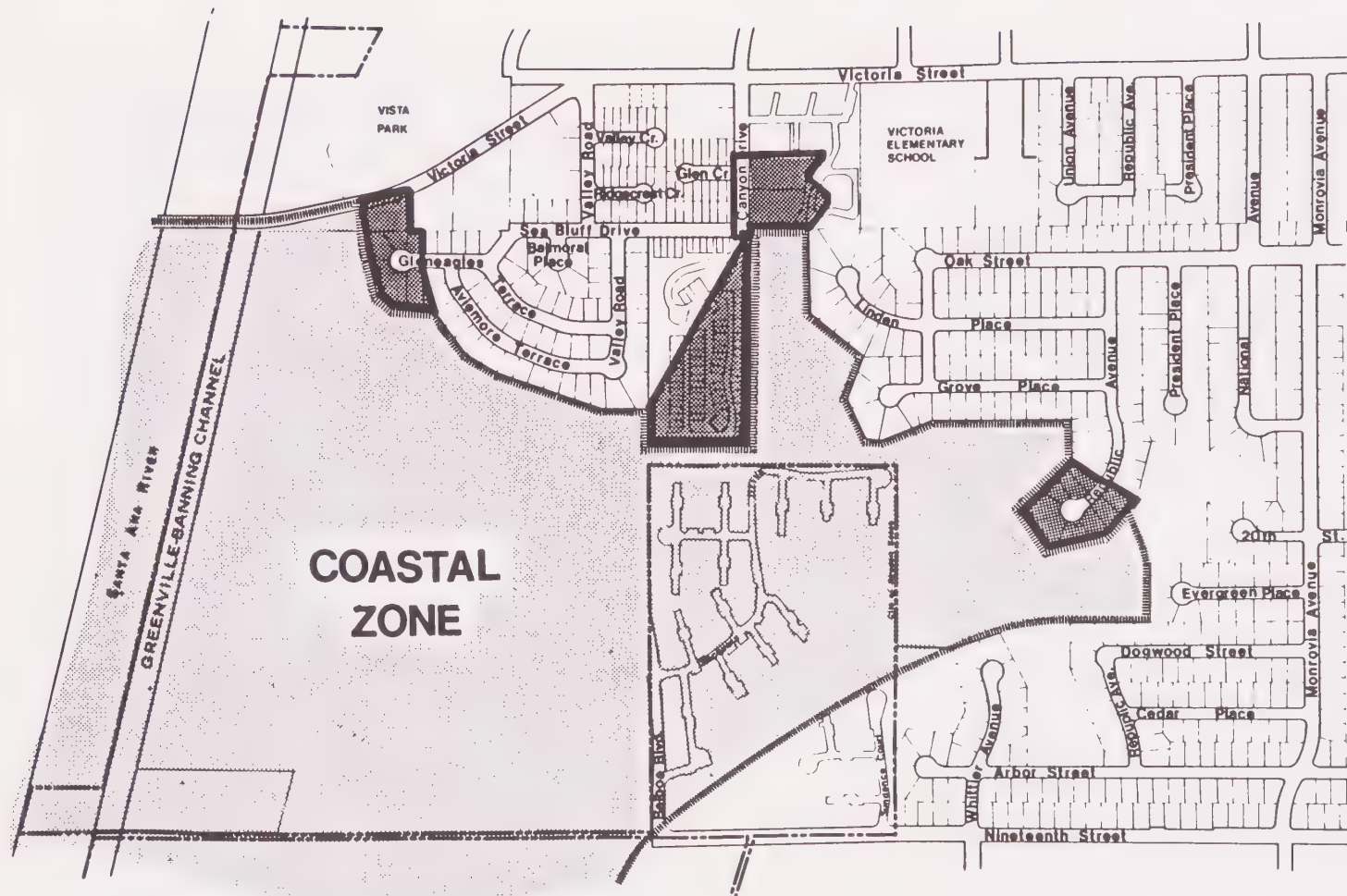


FIGURE 40

COASTAL

COASTAL ZONE BOUNDARY 1979



100 0 100 200

----- COASTAL BOUNDARY



1979 DELETIONS FROM COASTAL ZONE [A.B. 462 - MELLO]

FIGURE 41



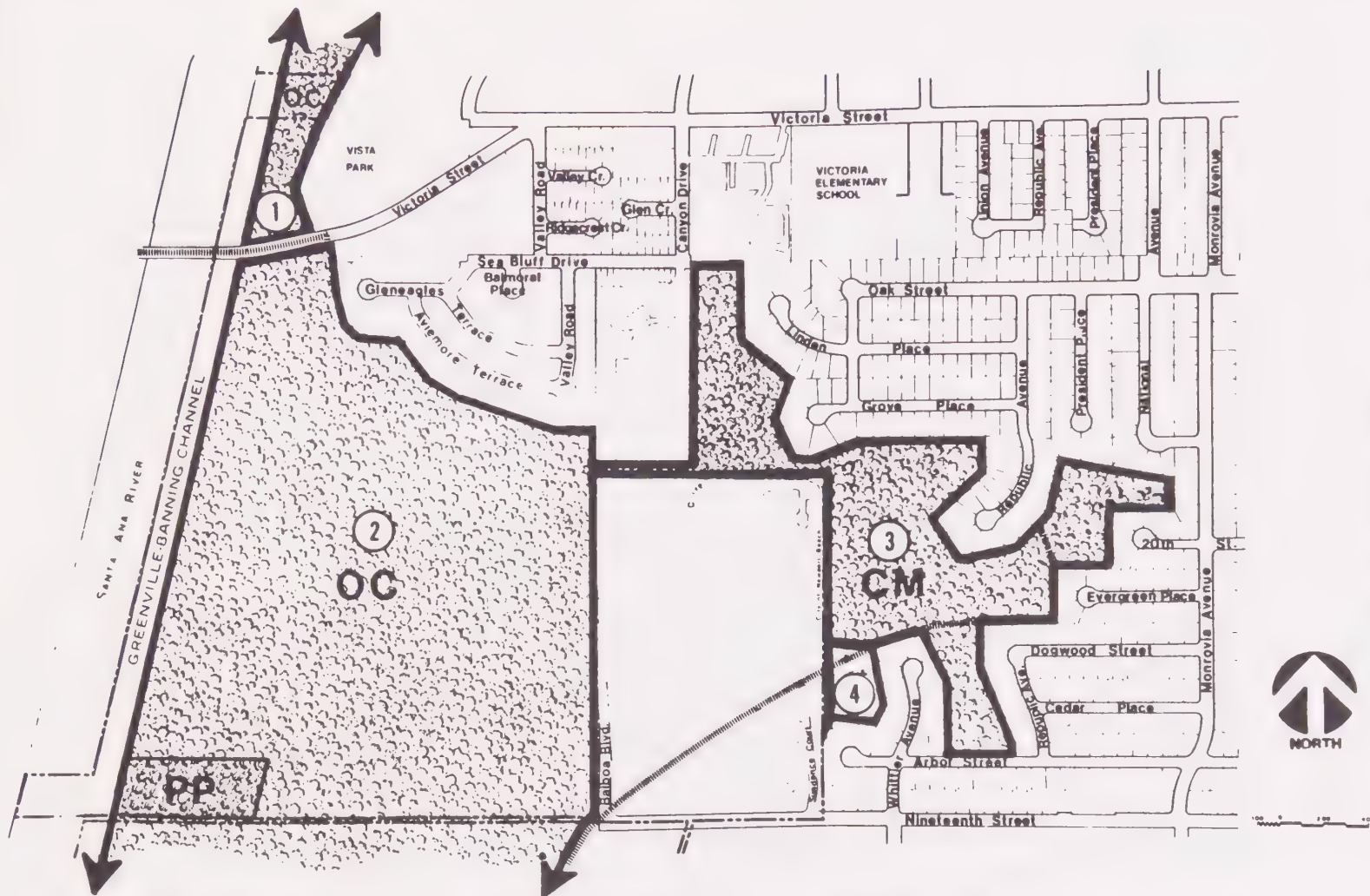


The northern most portion of the Coastal Zone extends along the Santa Ana River to Victoria Street (photo looking east, Brookhurst Street in foreground with Victoria Pond in center).



A majority of the Coastal Zone includes the undeveloped Santa Ana River lowlands (photo looking north: oilfields and southwest city limits in foreground and Santa Ana River to the left).

PROPOSED DEVELOPMENT AND PROPERTY OWNERSHIP



100 0 100 400

PRIVATE OWNERSHIP

PUBLIC OWNERSHIP

PROPOSED DEVELOPMENT

DEVELOPED

PP PAULEY PETROLEUM

CM COSTA MESA

1 FAIRVIEW REGIONAL PARK (Orange County)

3 CANYON PARK (Costa Mesa)

+ CONDOMINIUMS

OC ORANGE COUNTY

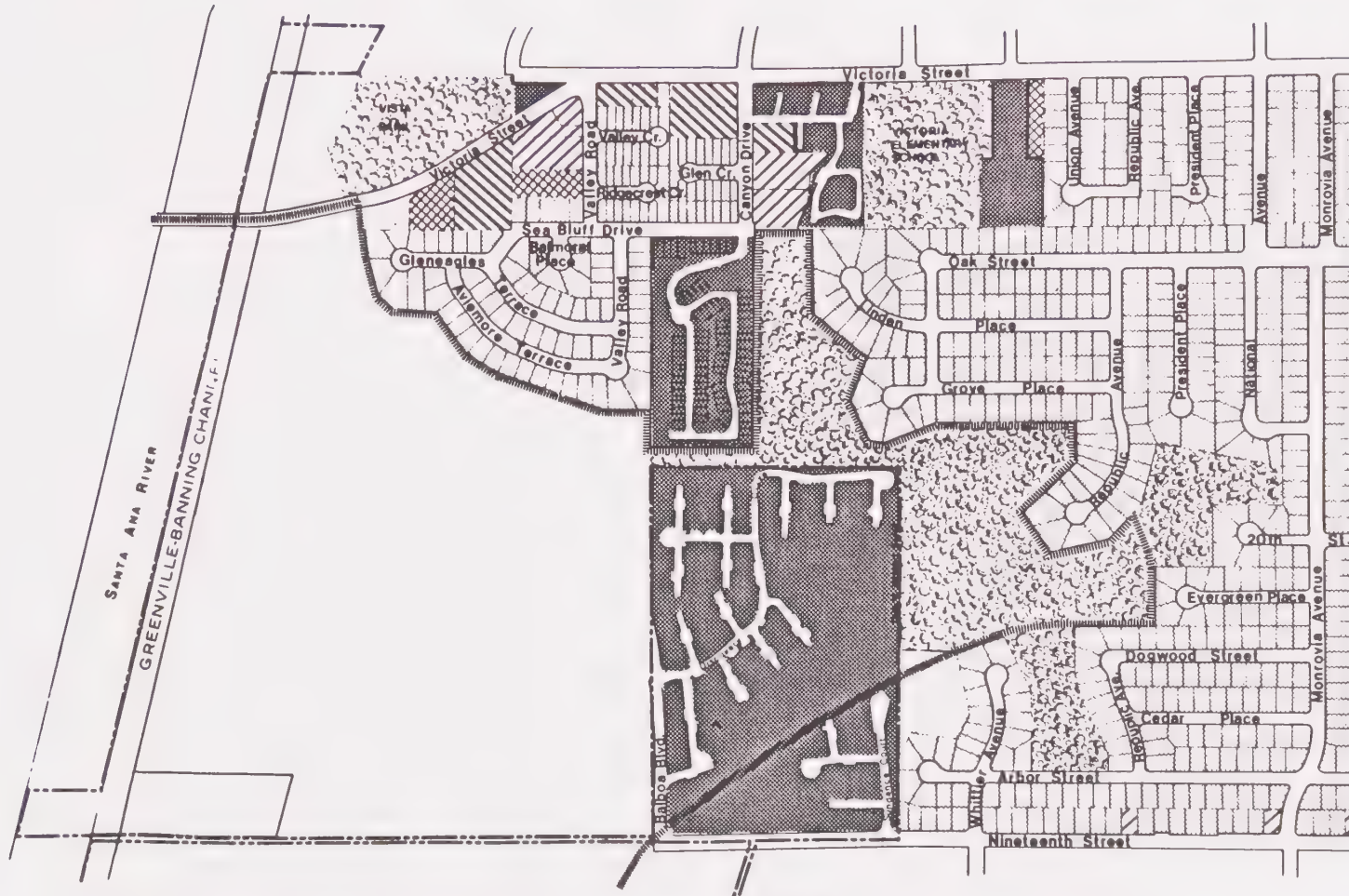
2 TALBERT REGIONAL PARK (Orange County)

4 TRACT 12067 (Cal—American Fin.)

COSTA MESA

FIGURE 42

LAND USES










- | | | | |
|---|-----------------------------|---|-------------------|
|  | SINGLE FAMILY RESIDENTIAL |  | PUBLIC FACILITIES |
|  | MULTIPLE FAMILY RESIDENTIAL |  | INSTITUTIONAL |
|  | COMMERIAL |  | VACANT |
|  | INDUSTRIAL | | |

FIGURE 43



All of the river lowlands between Pacific Coast Highway and the Fairview Regional Park site are included in the Santa Ana River/Santiago Creek Greenbelt Corridor. The Greenbelt Implementation Plan designates this area as a "Water-Related Recreation and Conservation Area." Although the Plan does not propose a specific use of these properties, it does require the subsequent recreational use to be compatible with the overall greenbelt and to provide access to the river trails network.

Environmental Features

Previous development has bisected the Coastal Zone in Costa Mesa into two separate and somewhat distinct environments. The larger of the two areas is portion of the Santa Ana River Lowlands which stretches approximately 3 miles from the coast to the single-family residences north of the Fairview Park site. Parts of the area were once the delta and the flood plain at the mouth of the river. The river has since been channelized and very little remains of the original environment, presumed to have been a river bottom at the north end and a saltmarsh further south.

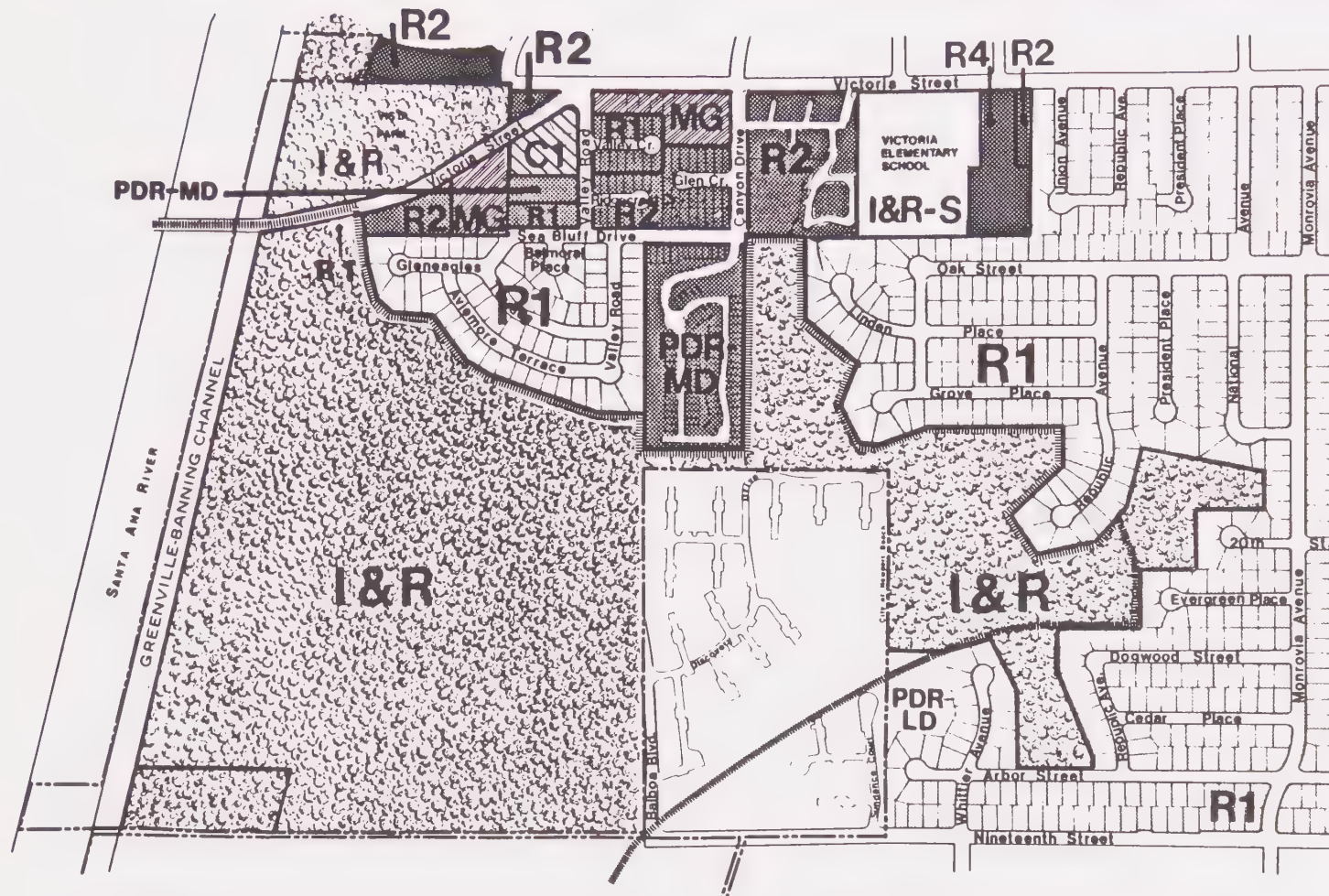
Little topographic change can be detected over most of this area. Elevations range from approximately 5 to 10 feet above sea level. The topography does increase dramatically in the northeast sector and continues to a height of 75 feet at the top of the bluff. The actual boundary of the Coastal Zone extends to the toe of the slope (15 to 20 feet in elevation) to coincide with the property lines of the bluff-top single-family residential lots.

Surface water is limited to flow within the Greenville-Banning Channel (immediately adjacent to the east levee of the Santa Ana River) and a small man-made pond south of Victoria Street. This pond was originally dredged in the late 1950's or early 1960's to provide a model complex for a proposed marina-related housing tract. This complex was never constructed and the pond has become an important resting and feeding spot for many water fowl. Most notable is the California least tern which is listed as an endangered species by both the State and Federal governments.

The biotic resources are shown in Figure 45. Various grasses and weeds cover most of this area. Two exceptions are the riparian community adjacent to the pond (primarily mule fat, tules, and tamarisks) and a large thicket of arroyo willow, mule fat, and pampas grass in the central portion of the lowlands. This thicket is rich in birdlife which includes Cooper's hawks, sparrows, goldfinches, Audubon's warblers, ruby-crowned kinglets, blue-grey gnat catchers, hermit thrushes, mockingbirds, hummingbirds, doves, loggerhead shrikes and ring-necked pheasants.

The eastern area is separated from the river lowlands by the Sea Bluff Canyons and Newport Terrace condominiums. Linkage is provided by an approximately 40-foot wide, half-acre strip of land which separates the two condominium developments. The Coastal Zone extends eastward to include approximately 27 of the total 36 acres designated as the Canyon Park site.

GENERAL PLAN/ZONING



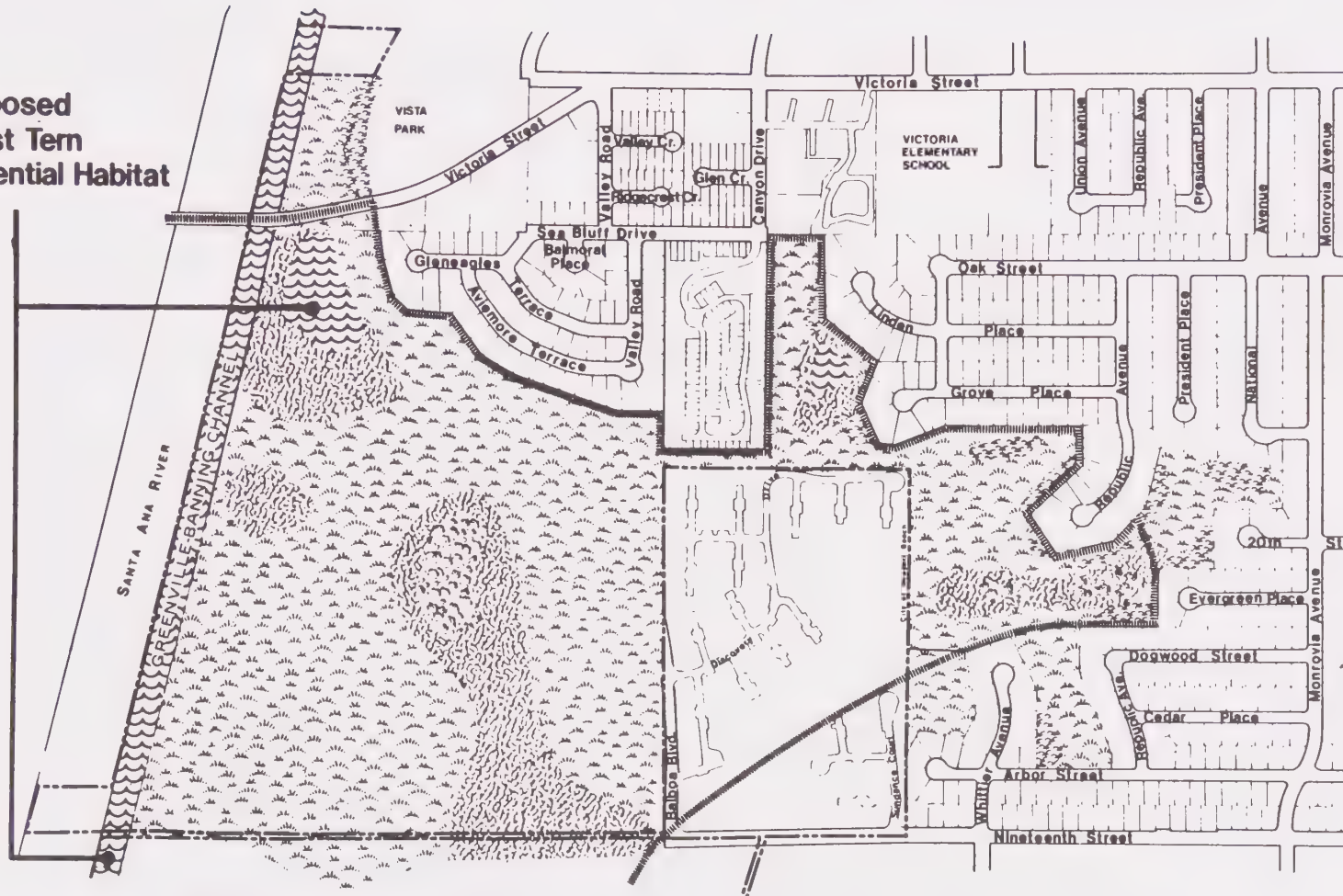
- | | |
|--|--|
|  LOW DENSITY RESIDENTIAL |  LIGHT INDUSTRY |
|  MEDIUM DENSITY RESIDENTIAL |  NEIGHBORHOOD COMMERCIAL |
|  HIGH DENSITY RESIDENTIAL |  PUBLIC AND SEMI-PUBLIC USE |






FIGURE 44



BIOTIC RESOURCES

Proposed
Least Tern
Essential Habitat



- | | | | |
|---|------------------------------|--|-----------------------|
|  | Water Areas |  | Arroyo Willow Thicket |
|  | Grasses/Weeds/Annuals |  | Coastal Sage/Scrub |
|  | Thicket (Primarily Mule Fat) | | |



0 100 200

FIGURE 45



Unlike the flat river lowlands, the Canyons area contains significant topographic variation. Elevations range from approximately 15 feet at the canyon floor to 80 feet at the top of the surrounding bluffs (the property line for the park site generally extends to the top of the bluff line). Some of the canyon walls are gentle inclines while others are near vertical walls. Those walls with a more vertical slope were modified by soil and gravel extractions when the area was used as a borrow pit for construction projects.

Vegetation consists of various grasses and weeds on the floor of the canyon and limited amounts of coastal sage-scrub on the bluffs. Arroyo willows and pampas grass are located within natural drainage courses which transect the canyon floor. A significant amount of riparian vegetation (arroyo willows, tules, and mule fat) surround a small pond located in the northern portion of the park site beyond Grove and Linden Places. This pond is fed by runoff from adjacent developments and exists throughout the year.

The variety of wildlife which exists in the canyons is more limited than that of the lowlands. Because of the distance from the ocean and the secluded nature of the pond, the amount of water fowl which frequents the canyon area is limited. The proximity to adjacent urban development and resultant increase in use of the vacant parcel are also factors which reduce the amount of wildlife in this area.

COASTAL ACT APPLICATION

The identification of key coastal issues is an important step in the development of a Local Coastal Program. This process seeks to (1) determine the policies of the Coastal Act that apply to Costa Mesa, (2) determine the extent to which existing local plans are adequate to meet Coastal Act requirements, and, (3) delineate any potential conflicts between existing plans and development proposals and the policies of the Coastal Act.

Overview/Summary of Key Issues

The key issues which must be addressed in Costa Mesa's LCP process can be presented as a series of questions or problem statements.

1. What type of development is both feasible and appropriate in the Santa Ana River lowlands?
2. Are there specific areas which can be identified as sensitive habitats which require additional protection and/or enhancement?
3. What type and intensity of development is compatible with sensitive habitat areas?
4. What types of recreation and visitor serving facilities are needed to provide maximum public access to Costa Mesa's coastal resources, consistent with the protection of environmentally sensitive areas?

5. What is the potential for wetland restoration in the Santa Ana River estuary and lowlands?
6. What type of development is feasible for the proposed Talbert Regional Park site?
7. What type of development is appropriate for flood plains?
8. Provide adequate service systems to include sufficient road capacities to meet the needs of recreational travel demands.
9. Determine the extent to which the construction of major arterial highways (19th Street and "Bluff Road") are consistent with planned uses in the Coastal Zone.
10. Is private ownership and development of the five acre parcel adjacent to the Santa Ana River consistent with regional public recreational uses?
11. How can the identified coastal policies and programs be incorporated into the overall planning and development process?
12. What type and intensity of development is compatible with adjacent land uses in the Santa Ana River lowlands?
13. What type of development controls are necessary to ensure that construction on adjacent properties is not detrimental to the uses and developments in the Coastal Zone?

Coastal Act Policy Evaluation

Chapter 3 of the Coastal Act contains numerous policies regarding future development in the Coastal Zone which must be addressed in the LCP process. These policies have been organized in fourteen policy groups. The following paragraphs describe each of these policy groups and indicate the degree to which existing City plans and regulations are consistent with these policies. Table 32 summarizes this evaluation.

1. Shoreline Access. The Coastal Act requires that (1) maximum public access to the shoreline shall be provided and conspicuously posted; (2) development shall not interfere with the right of the public to have access to the sea and; (3) new development shall provide access from the nearest public roadway to the shoreline.

Although a major concern of the Coastal Act, the shoreline access requirement, is not applicable to Costa Mesa. The Coastal Zone is approximately 2,000 yards inland from the ocean and only indirect access is currently provided via the Santa Ana River bicycle and equestrian trails.

Table 32
GENERAL PLAN AND ZONING/COASTAL ACT POLICY COMPARISON

COASTAL ACT POLICY GROUPS	CONSISTENCY WITH COASTAL POLICIES	REMARKS/COMMENTS
1. Shoreline Access	Consistent	Coastal Zone is approximately 2,000 yards inland from coast. Access to future coastal-related recreational areas is protected because of public ownership of the area within the Coastal Zone.
2. Recreation and Visitor-Serving Facilities	Potentially Consistent	The current General Plan and zoning classifications designate most of the area for public recreational use. However, these provisions also permit other uses which may conflict with Coastal Act policies.
3. Water and Marine Resources	Not Applicable	No water or marine resources are located in Costa Mesa's Coastal Zone.
4. Diking, Dredging, Filling and Shoreline Structures	Not Applicable	No diking, dredging, filling, or shoreline structures are anticipated by the General Plan and zoning designations.
5. Commercial Fishing and Recreational Boating	Not Applicable	Although the City had expressed support for a small boat marina along the Santa Ana River, this option is no longer addressed in the General Plan.
6. Environmentally Sensitive Habitat Areas	Potentially Inconsistent	The General Plan and zoning designations do not include policies for habitat protection although the General Plan does address preservation and enhancement of wetlands.
7. Agriculture	Not Applicable	No agricultural production exists in the Coastal Zone.
8. Hazard Areas	Potentially Consistent	The General Plan and zoning designations provide for uses compatible with known geologic and flood hazards.
9. Forestry and Soils Reserve	Not Applicable	No timberland or commercial forests exist in Costa Mesa's Coastal Zone.
10. Locating and Planning New Development	Consistent	Planned and permitted development is located adjacent to an existing urban area.
11. Visual Resources and Special Communities	Potentially Consistent	The General Plan and zoning designations encourage public recreational use but do not include specific standards for view protection.
12. Public Works	Consistent	The General Plan proposes public works improvements to serve future development in the Coastal Zone.
13. Industrial and Energy Facilities	Not Applicable	No industrial or energy facilities exist or are anticipated in Costa Mesa's Coastal Zone.

2. Recreational and Visitor-Serving Facilities. The Coastal Act requires that (1) whenever appropriate and feasible, public facilities (including parking areas) shall be distributed throughout the Coastal Zone; (2) lower cost visitor and recreational facilities shall be protected, encouraged and, where feasible, provided; (3) developments providing public recreational opportunities are preferred; (4) coastal areas suited for water-oriented recreation shall be protected; (5) ocean front land suitable for recreational use shall be protected; (6) private lands suitable for visitor-serving commercial recreational facilities are preferred; (7) upland areas necessary to support coastal recreation shall be reserved, where feasible, and; (8) visitor-serving facilities that cannot feasibly locate in existing developed areas shall be located in existing isolated developments or at selected points of attraction to visitors.

Costa Mesa's General Plan and zoning designations are consistent with these policies. Over 96 percent of the Coastal Zone is planned for public and semi-public uses and zoned I&R (Institutional and Recreational). The 5-acre parcel adjacent to the Santa Ana River which is currently in private ownership is encouraged by this General Plan to be acquired by the County of Orange.

3. Water and Marine Resources. The Coastal Act requires that, (1) marine resources shall be maintained and, where feasible, restored; (2) biological productivity and quality of coastal waters shall be maintained and where feasible, restored; and (3) construction on or over coastal waters shall incorporate the best available mitigation measures.

Since Costa Mesa's portion of the Coastal Zone is landlocked, these policies are not applicable at this time. Future land use and development proposals, if any, which include all of the Santa Ana River lowlands from Victoria Street to the Pacific Ocean may increase the importance of these policies for the portion of the development located in Costa Mesa.

4. Diking, Dredging, Filling, and Shoreline Structures. The Coastal Act permits limited types of diking, dredging, filling of open coastal waters, wetlands, estuaries, and lakes where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects.

At the present time, these policies are not applicable to Costa Mesa's Coastal Zone.

5. Commercial Fishing and Recreational Boating. The Coastal Act requires that (1) increased recreational boating use of coastal waters shall be encouraged; (2) facilities serving the commercial fishing and recreational boating industries shall be protected, and where feasible, upgraded; and (3) coastal-dependent developments shall have priority over other developments on or near the shoreline except that such uses shall not be sited in a wetland area.

No commercial fishing or recreational boating facilities exist within Costa Mesa.

6. Environmentally Sensitive Habitat Areas. The Coastal Act requires that (1) environmentally sensitive habitat areas shall be protected and (2) development in areas adjacent to environmentally sensitive habitat areas shall be sited and designed to prevent impacts which would significantly degrade such areas.

The Environmental Resources/Management Element of the City's General Plan indicates that the pond south of Victoria Street is frequented by the California least tern, an endangered species. This pond, as well as portions of the Santa Ana River, Greenville-Banning Channel, and marshland to the south, has been proposed as an essential habitat for the least terns. If these areas are so designated, alterations to the habitats and development within sensitive environmental areas would be limited to those activities needed to support, protect, or study the ecologic processes within the habitat area. Any future land use option has the potential for disruption and will require design standards that are sensitive to the site's potential as a habitat area.

7. Agriculture. The coastal Act requires that the maximum amount of prime agriculture land shall be maintained in agricultural production to assure the protection of the area's agricultural economy.

This policy is not applicable to Costa Mesa as none of the Coastal Zone is currently in agricultural production.

8. Hazard Areas. The Coastal Act requires that new developments shall (1) minimize risks to life and property in areas of high geologic, flood, and fire hazard; and (2) assure stability and structural integrity and neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding area, or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs.

The portion of the Coastal Zone occupied by the Santa Ana River lowlands is subject to both geologic and flood hazards. The Environmental Resources/Management Element indicates that the area has a high potential for liquefaction and that the area is within the Flood Hazard Area as established by the U.S. Department of Housing and Urban Development. Recreational use of this area which limits the amount of physical improvements needed to support these activities is consistent with the degree of hazards which is known to exist.

The bluffs surrounding the Canyon Park site have been significantly degraded by soil and gravel extraction activities and erosion. A major emphasis of improvements to this area will include slope stabilization and protection programs.

Public ownership and control of the majority of the area within the Coastal Zone would minimize the risks to life and property. Public ownership and development of the 5-acre parcel (which is in private ownership) adjacent to the river is encouraged.

9. Forestry and Soils Resources. The Coastal Act requires that the long-term productivity of soils and timberlands be protected.

This policy is not applicable to Costa Mesa since none of the Coastal Zone is devoted to commercial forest or timberland uses.

10. Locating and Planning New Development. The Coastal Act requires (1) mitigation measures shall be incorporated into all developments affecting archaeological and paleontological resources; (2) location of new development in or near existing developed areas; (3) land divisions outside of developed areas shall be limited; (4) location and amount of new development should maintain and enhance coastal access, facilitate the provision or extension of transit service, incorporate nonautomobile circulation, provide adequate park dedication and recreational facilities, complement air quality management plan policies and requirements, minimize the consumption of energy and vehicle miles traveled, and provide adequate parking facilities; (5) commercial facilities should be provided within or adjoining residential development; (6) visitor-serving facilities shall not be precluded by other development; and (7) coastal-dependent developments shall have priority over other developments on or near the shoreline.

The amount of new private development in the Coastal Zone will be extremely limited. The General Plan and zoning designations indicate that over 96 percent of the area will be devoted to public recreational uses.

Three paleontological sites have been located within the Canyon Park site. Two sites are located in the west-facing canyon wall beyond Linden Place, while the third is located in an incised arroyo that empties the small pond at the foot of the bluffs. Each site contains evidence of historical marine life such as clams, scallops, oysters, and snails. These sites have been studied and scientific collections have been salvaged by qualified paleontologists.

11. Coastal Visual Resources and Special Communities. The Coastal Act requires (1) protection of coastal scenic and visual qualities, (2) site and development designs to protect public view, (3) limitation of landform alternatives, and (4) protection of special or unique coastal communities and neighborhoods.

The visual qualities of the Coastal Zone in Costa Mesa can be protected and enhanced by the proposed public use and development in the river lowlands and canyons. No special or unique communities or neighborhoods exist in the Coastal Zone.

12. Public Works. The Coastal Act requires that (1) new or expanded public works facilities shall be designed to accommodate needs generated by development or uses permitted by the Coastal Act; (2) special districts must not be formed or expanded which would attract new developments incompatible with coastal policies, and (3) where existing or planned public works facilities can accommodate only a limited amount of new development, coastal-dependent and visitor-serving land uses shall not be precluded by other developments.

Major public works projects anticipated by the General Plan in the Coastal Zone consist primarily of major roadways. Both the City and County Master Plans of Arterial Highways call for the extension of 19th Street as a primary arterial highway (106 feet of right-of-way, six lanes wide) and the construction of a bridge over the Santa Ana River. The extent to which this capacity is consistent with the less intense recreational options for the river lowlands and with the resource and habitat protection policies of the Coastal Act deserves further review.

Public ownership and development in the Coastal Zone can ensure that needed sewer, water, and other utilities can be designated to accommodate only those uses which are consistent with the Coastal Act. These existing conditions can also ensure that sufficient parking facilities are provided to accommodate future public use and access.

13. Industrial Development and Energy Facilities. The Coastal Act contains numerous policies regulating the development, location, expansion, and continued use of tanker facilities, LNG terminals, off-and-on shore oil and gas facilities, refineries, and power plants in the Coastal Zone.

These policies are not applicable to Costa Mesa. The one oil well located on the 5-acre parcel adjacent to the river is not a significant energy source and has not been operational for a number of years. The current General Plan and zoning designations prohibit further oil extraction expansion and future industrial or energy-related development.

LAND USE ALTERNATIVES

The future use and development of the land within Costa Mesa's portion of the Coastal Zone has been the subject of considerable interest/debate for many years. Suggested options have included a small-craft marina, a lakefront residential community, regional and community park, and a wildlife preserve and restored wetland.

The purpose of this section is to identify the most likely options for the future use of the Santa Ana River lowlands and compare these uses with the policies and requirements of the Coastal Act. One alternative calls for the development of a regional park. The other option proposes to restore the lowlands as a wetland or estuary and to create a wildlife preserve.

It was assumed that both options would extend to include the remaining lowlands and degraded wetlands to the south.

REGIONAL PARK

Description

The County-owned land in the river lowlands and oil fields to the south are designated as "open space" by the Orange County General Plan and identified as the Talbert Regional Park site. This approximately 210-acre area represents the southerly portion of a major regional open space network which continues to the north to include 83-acres of the Fairview Regional Park site. The parks are to be linked by a common trails system. The River Greenbelt Plan, which was compiled in conjunction with Riverside and San Bernardino Counties, proposed passive recreational use for the park site. This plan was used as a concept plan for the All River Plan of the U.S. Army Corps of Engineers. The County is working on the Santa Ana River Mouth open space study.

Impacts/Effects

Development of the Fairview and Talbert Regional Park would provide unique recreational opportunities for this portion of Orange County. Location adjacent to the river greenbelt would also increase the accessibility of the site to the remainder of the County for nonmotorized transportation modes.

Table 33 indicates the degree to which this land use option relates to the goals and policy groups of the Coastal Act.

Potentially adverse impacts may result because of the integration of recreational uses into an ecologically sensitive restored wetland or estuary. Careful planning and sensitive design standards must be employed to minimize conflicts between these two uses.

WILDLIFE PRESERVE AND RESTORED WETLAND

Description

The California Coastal Act proposes that the entire Santa Ana River lowlands be reserved as a multiple use regional park combining wetland restoration, general recreation, beach support facilities, and archaeological preservation. This option is similar to the regional park option discussed earlier but differs in regard to the extent of recreational uses and restoration areas. The current option anticipates a large portion of the site for restoration purposes.

The Santa Ana River lowlands represent a severely degraded and altered natural environment once consisting of the river delta and flood plain. A primary goal of this option is to restore these areas as both salt water marshes (near the mouth of the river) and fresh water marshes (further inland, possibly extending into Costa Mesa). This option is supported by the Coastal Commission and the Department of Fish and Game.

Table 33

REGIONAL PARK/COASTAL ACT POLICY COMPARISON

COASTAL ACT POLICY GROUPS	CONSISTENCY WITH COASTAL POLICIES	REMARKS/COMMENTS
1. Shoreline Access	Consistent	Proposed project will increase accessibility to coast.
2. Recreation and Visitor-Serving Facilities	Potentially Consistent	Proposed project will provide increased recreational opportunities.
3. Water and Marine Resources	Potentially Consistent	Biological productivity of degraded wetlands and estuary will be improved. Potential conflict with recreational uses.
4. Diking, Dredging, Filling and Shoreline Structures	Consistent	Dredging will improve/restore degraded wetlands.
5. Commercial Fishing and Recreational Boating	Not Applicable	
6. Environmentally Sensitive Habitat Areas	Potentially Consistent	Restored estuary will serve as much needed bird and wildlife sanctuary. Potential conflicts with recreational uses if not carefully located and regulated.
7. Agriculture	Not Applicable	
8. Hazard Areas	Consistent	Public recreational use consistent/compatible with known geologic and flood hazards.
9. Forestry and Soils Reserve	Not Applicable	
10. Locating and Planning New Development	Consistent	Proposed development will minimize land use impacts and provide inland recreational opportunities so as not to overload shoreline recreational areas.
11. Visual Resources and Special Communities	Consistent	Proposed plans will improve visual appearance and protect scenic and visual qualities.
12. Public Works	Consistent	A minimal amount of public works improvements will be required to support planned use.
13. Industrial and Energy Facilities	Not Applicable	

In 1979, the Department of Fish and Game initiated a pilot experimental saltmarsh restoration project west of the Santa Ana River, near Pacific Coast Highway. Analysis of the program indicated that the project was successful and has established itself very well. Based upon these findings and the nature of the river lowlands along the east levee, it appears that significant portions of the river lowlands may also be capable of restoration.

Impacts/Effects

Implementation of this option would be the least environmentally disruptive and could provide significant environmental benefits.

This option could alleviate the conflicts noted in the regional park option by restricting the type, location and intensity of permitted recreational uses. Rather than permitting camping facilities, the Coastal Plan suggests the possible inclusion of a hostel to provide low cost visitor-serving facilities.

Implementation of this option will restore the area to its previous natural state (see Table 34). Although the restoration activities may create temporary environmental impacts, these would be short term and would not require mitigation.

PUBLIC ACCESS PROVISIONS

Existing public access to the Coastal Zone is limited because of the undeveloped nature of the Canyon Park site and the Santa Ana River lowlands. Present access to the Santa Ana River Trail System is provided by the Victoria Street/Hamilton Avenue bridge. Similar access to the trail system is expected to be provided with completion of the 19th Street/Banning Avenue bridge proposed by the County of Orange.

Access to the City's Canyon Park site will be provided via bicycle and pedestrian trails at the north end of the park off of Canyon Drive and a vehicular entrance off of Arbor Street at the southern end of the park. Circulation within the park will be provided by a series of pedestrian and bicycle paths. Access between the park site and the river lowlands will be provided via a 40 foot wide strip of parkland between the Newport Terrace and Sea Bluff Canyon condominium projects. This access way was provided to satisfy the parkland dedication requirements of the Sea Bluff Canyon project in Costa Mesa.

Future access demands for the larger lowland area are directly related to the specific land use option chosen for implementation. The wildlife preserve option would require minimal and restricted access for environmental management purposes. Identification of future specific access points will be made in conjunction with detailed site planning.

Table 34

WILDLIFE PRESERVE AND RESTORED WETLAND/COASTAL ACT POLICY COMPARISON

COASTAL ACT POLICY GROUPS	CONSISTENCY WITH COASTAL POLICIES	REMARKS/COMMENTS
1. Shoreline Access	Consistent	Proposed project will provide additional access consistent with environmental preservation goals.
2. Recreation and Visitor-Serving Facilities	Consistent	Proposed project will provide increased recreational opportunities.
3. Water and Marine Resources	Consistent	Biological productivity of degraded wetlands and estuary will be improved and restored.
4. Diking, Dredging, Filling and Shoreline Structures	Consistent	Dredging will improve/restore degraded wetlands.
5. Commercial Fishing and Recreational Boating	Consistent	The Coastal Act prohibits construction of commercial fishing or recreational boating facilities in environmentally sensitive habitat areas.
6. Environmentally Sensitive Habitat Areas	Consistent	Restored estuary will serve as much needed bird and wildlife sanctuary.
7. Agriculture	Not Applicable	
8. Hazard Areas	Consistent	Proposed development will minimize land use impacts.
9. Forestry and Soils Reserve	Not Applicable	
10. Locating and Planning New Development	Consistent	Proposed development will minimize land use impacts.
11. Visual Resources and Special Communities	Consistent	Proposed plans will improve visual appearance and protect scenic and visual qualities.
12. Public Works	Consistent	A minimal amount of public works improvements will be required to support planned use.
13. Industrial and Energy Facilities	Not Applicable	

GOALS, OBJECTIVES AND POLICIES

The goals, objectives and policies that address coaster resources are as follows:

GOAL I: ENVIRONMENTAL QUALITY AND RESOURCE CONSERVATION

It is the goal of the City of Costa Mesa to provide its citizens with a high quality environment through the development and conservation of resources, including land, water, minerals, wildlife, and vegetation; the protection of areas of unique natural beauty and historical, social, cultural, and scientific interest; the integration of natural features into the man-made environment; and the preservation of open space.

Objective I-F: Work towards the orderly, balanced utilization and conservation of the City's coastal resources.

43. Coordinate the planning efforts of the City with those of the County of Orange, the City of Newport Beach, and other appropriate agencies to develop uniform and consistent policies regarding the future use and development in the Santa Ana River lowlands extending from the Pacific Ocean to the Fairview Regional Park Site.
44. Preserve and enhance existing wetlands areas.
45. Develop the Canyon Park site as a low intensity, wilderness area combining hiking, picnicking, and educational uses in a restored natural environment.
46. Require the provision of adequate visitor serving on-site parking facilities that do not impact sensitive resources within the Coastal Zone.
47. Encourage the County of Orange to acquire the remaining 5-acre privately owned parcel adjacent to the Santa Ana River.
48. Require that all public recreation areas and facilities be available at the lowest feasible cost to allow all economic segments of the community to use and enjoy the recreational opportunities provided in the Coastal Zone.
49. Review existing public works facility planning efforts to ensure that adequate water, sewer, and circulation systems are available to serve uses in the Coastal Zone and to limit planned capacities to conform to the demands created by development which is consistent with the Coastal Act.
50. Coordinate the development of plans, policies, and design standards for projects within the Coastal Zone with appropriate local, regional, State, and Federal agencies.

51. Pursue adoption of a Local Coastal Plan.
52. Participate with the County of Orange to provide pedestrian and bike linkages between open space and recreation facilities in and adjacent to the coastal area to take advantage of coastal resources.
53. Encourage the preservation of views of coastal resources from City and County parkland and public streets within Costa Mesa.

REFERENCES

1. General Plan (City of Costa Mesa) 1981.
2. Community Development/Management Element; City of Costa Mesa General Plan. (City of Costa Mesa) 1978.
3. Persons and Organizations consulted:
 1. City of Newport Beach
 2. Bob Richmond, County of Orange Environmental Management Agency
 3. Grace Fong, County of Orange Environmental Management Agency
 4. Dave Alkema, City of Costa Mesa, Community Services Department
4. Santa Ana River Main Report and Supplemental Environmental Impact Statement, Draft, 1988 (U.S. Army Corps of Engineers).

Housing

HOUSING

The provision of adequate housing opportunities for the citizens of California is a major challenge facing all local, regional, and state agencies concerned with the future quality of life in the state. According to SCAG, just to house the anticipated 1994 regional population, approximately 124,000 housing units must be constructed every year throughout the SCAG region.

Recognizing the importance and critical nature of housing issues to the state's future, the legislature required the inclusion of Housing Elements in all local government General Plans. In addition to mandating the preparation of a Housing Element, Section 65583 of the Government Code described what must be addressed and incorporated into the element.

The inclusion of Housing Elements in local government General Plans has been required since 1969. In response to this mandate, the City of Costa Mesa adopted a Housing Element in April 1971. However, changes in the local and regional housing market and revisions to the State General Plan Guidelines necessitated amendments to the Housing Element in 1974, 1978, 1980, and 1988.

This update is being done as part of an overall General Plan update. The draft General Plan, including the Housing Element, has undergone public review and citizen participation from 1988 until adoption in 1992. To encourage citizen involvement in the update process, a community workshop was held on July 30, 1988. Notice was mailed citywide. The City also commissioned a random telephone survey to solicit citizen input. Six hundred (600) households were surveyed in September - October 1988. Public hearings were held to receive public input prior to adoption.

The following sections will describe Costa Mesa's housing market setting, inventory existing population and housing characteristics of the community, identify various public and private sector market constraints which impact housing opportunities, pinpoint unmet housing needs, discuss housing issues, and develop a comprehensive housing program to deal with the identified housing deficiencies and issues. The analysis of energy conservation opportunities for residential development is included in the Energy Subsection of the General Plan.

HOUSING ISSUES

The provision of adequate housing opportunities for all segments of the community raises many key issues which must be addressed prior to the development of a comprehensive housing program. Community response, reflected in the attitudes and beliefs of the citizens, decision-makers, City staff, and development interests, will influence the nature and scope of the final housing program which is adopted and implemented. The key issues which will be presented in this section area:

1. Cost and Availability
2. Affordability

3. Residential Densities
4. Employment/Housing Relationships
5. Displacement by Redevelopment/Conversion
6. Regional Fair Share Allocation

Cost and Availability

The cost and availability of housing in Southern California is the most critical of all housing-related issues. Housing costs have risen dramatically since 1974 and have outstripped gains in personal income. While rising housing costs have traditionally impacted lower and fixed income families the hardest, recent conditions are also affecting middle income groups as well. Some households which can afford the transportation costs are moving to lower priced housing in outlying areas, resulting in long home-to-work commutes which adversely impact traffic congestion and air quality.

Some who cannot afford to move are forced to reduce expenses for food, clothing, education, and medical care, resulting in a decrease in the quality of life for these families. Rising housing costs have also contributed to the increase in the number of two-income households which can result in many social and economic impacts for both the individual families and the regional economy.

Certain components of the rise in the cost of housing can be attributed to the overall inflation rate, the cost of labor, and price of materials. However, these fail to account for the disparity between housing costs and other prices in the region. One factor accounting for this gap is the limited availability of housing to satisfy the growing demand. In spite of the high costs, the demand for all types of housing has increased. Increasing immigration, decreasing household sizes, and increasing household formation rates during the past decade are but a few of the reasons for this demand. Based upon the simple law of supply and demand, conditions of high demand and limited supply equal high costs. However, the recent recession has contributed to a drop in the median new home price in 1991.

Affordability

The concept of affordability (how much a given household could or should spend on housing) has evolved over the years through "rule-of-thumb" guidelines used by numerous governmental agencies in establishing various housing programs, by lending institutions in determining if a household can qualify for a home loan, and by realtors and the general public to establish a price range in which to look for a new home. Historically, it has been assumed that the average household can afford to spend 25 percent of their monthly income on housing expenses or can afford to purchase a home valued two-and-one-half times their annual income. When developed, it was determined that these standards, or guidelines, established a reasonable balance between the competing household needs for shelter, food, clothing, health care, and transportation.

Although the standard definitions of affordability may have served a useful purpose in the past, recent market conditions and public attitudes would seem to suggest that the broad brush application of these standards is no longer appropriate. The rapid escalation in housing costs, growing disparity between housing costs and personal income gains, and the increasing number of families willing to extend their budgets to buy a house combine to necessitate a reevaluation of these traditional assumptions.

In reviewing household needs, the City of Costa Mesa analyzed the number of households paying more than 25 and 30 percent of their income on housing. This survey showed in both instances, that lower income families are much more likely to spend a disproportionate share of the income for housing than moderate and upper income households. The 30 percent guideline is used by SCAG and HUD to determine affordability for both low and moderate income households. Generally, upper income households may, by personal choice, spend more than 30 percent of their income on housing and still have sufficient income to purchase necessary goods and services without undue burden.

Residential Densities

The topic of residential densities is often one of the most complex and emotionally laden issues which face local governments. The term "density" elicits widely varying responses, images, and prejudices from each citizen.

Density itself is a relative concept which can differ in meaning from one jurisdiction or geographic area to another. Density can be defined as people per acre or square mile, dwelling units per acre, people per dwelling unit, or the relationship between maximum floor area or site coverage per given lot area. The designation or perception of certain residential areas as low, medium, or high density is directly related to the range of densities within a specific jurisdiction and, generally, cannot be transferred elsewhere. As examples, the designations of high and low density in Costa Mesa bear little or no resemblance to what is defined as high density in Los Angeles, or low density in a rural agricultural county.

Costa Mesa has traditionally defined density as the number of dwelling units for a given area. The Land Use Element of the General Plan includes three residential classifications which permit development ranging from less than eight to twenty units per acre, with one area north of the I-405 Freeway having a density assignment of twenty-five to thirty-five units per acre. The City's traditional zoning regulations define density as the amount of lot area required to develop one unit, while the Planned Development zones permit densities corresponding to the General Plan. Actual densities range from less than one unit per acre for older single-family homes on large underdeveloped lots to over 90 units per acre for the 18-story Bethel Towers senior citizen housing complex.

While direct correlations between density and adverse behavior or crime cannot be established, the overall intensity of development in a given area does impact traffic, public transportation systems, utility services, schools, parks, and open space. Variations in density result in combinations of beneficial and adverse impacts which must be balanced before conclusions regarding the most appropriate land use distribution are made. High density developments may increase the demand for utility capacity, and service as well as traffic volumes, but can reduce construction and housing costs and support public transportation facilities. On the other hand, low density developments are a less efficient use of scarce land, contributing to suburban sprawl and higher housing costs, and are less capable of supporting public transportation, resulting in an overdependence of the automobile.

In order to supply all segments of the community with adequate housing opportunities, Costa Mesa must provide a balance of low, medium, and high density residential developments. Such policies result in a diverse housing stock which provides a wide choice of living accommodations based upon the social and economic needs of the citizenry. As the supply of developable land decreases, the price of residential land increases. Because of this relationship, proposals to reduce existing densities or to limit the number of dwelling units which may be constructed in Costa Mesa should not be made in haste and should only be considered after the full impacts on the local housing market are discussed.

Employment/Housing Relationships

Within a regional context, there is a direct relationship between employment opportunities and the demands for dwelling units. Employment gains may be stifled by limited housing supplies or high housing costs. Conversely, diversification in the housing market provides a better labor pool from which businesses and industries can draw, resulting in possible expansion in these sectors of the economy. On the local scale, these relationships become less direct but no less important to the health of the region's economy.

Existing economic conditions in Orange County have created a situation where employment gains are increasing at a faster rate than housing production, and where housing costs increased faster than employee salaries. The impacts of these relationships are being felt throughout the local business community. Rising housing costs are forcing lower and moderate income employees to locate in western portions of San Bernardino and Riverside Counties resulting in long commutes, traffic congestion, and air pollution. Even if many of the lower salaried employees can find housing in outlying areas or in northern or central Orange County, they cannot afford the transportation costs to commute to the local employment centers. These circumstances have led to a labor shortage to fill minimum wage, low-skilled jobs. In response to these conditions, one Costa Mesa manufacturing firm indicated that company-owned commuter buses must be used to bring employees to work. Fairview Hospital, one of the City's largest employers, has allocated approximately 550 employee/client housing units in order to recruit and retain qualified nurses and technicians. South Coast Metro shuttles some employees to and from the Amtrak station in Santa Ana.

Costa Mesa has developed as a diversified community, providing for various types and intensities of commercial, industrial, and residential development. In 1980, Costa Mesa had a population of 82,562 persons, a housing inventory of 34,023 dwelling units and an employment base of approximately 56,800 jobs. According to the 1980 Census, 27.8% of the labor force who live in Costa Mesa also work in Costa Mesa. Because of many locational factors and personal preferences, cities are not able to provide a one-to-one balance between employment and housing opportunities. The General Plan Land Use Element projects a maximum buildout potential of 107,100 persons, 45,100 dwelling units, and 97,400 jobs.

According to labor statistics from the California Employment Development Department (EDD), for 1990 Orange County had more resident employees than jobs: with a civilian labor force of 1,382,800, and wage and salary employment of 1,225,600. For every job in the County, there are 1.3 employees who reside in the County.

Displacement by Redevelopment/Conversion

As Costa Mesa's supply of vacant land becomes more scarce, the pressures for private redevelopment of underdeveloped properties or the conversion of existing older dwelling units and mobile homes to higher density or more economically profitable residential uses will increase dramatically. A great majority of these units are older, single-family, duplex, bungalow dwellings, or mobile homes which comprise a portion of the City's low income housing stock. While occupants who are homeowners may well profit from the sale of their property, removal of these units displaces those households which can least afford alternative housing accommodations and results in a further increase in the demand for low income units.

Conversions of another type (apartments to condominiums, stock cooperatives or other ownership units) are also a major housing issue. Again, conversions of this nature involve both positive (primarily, offering lower cost ownership units than could be provided with new construction) and negative (primarily, reduction in the supply of available rental opportunities and displacement of existing tenants) impacts on the community. The City Council has enacted specific policies regarding the conversion of apartments to condominiums. These policies are contained in an ordinance adopted in August 1977 and a General Plan Amendment to the Housing Element in March 1978. Both policy documents allow for the rejection of conversion proposals in the event of a rental housing shortage, defined by the ordinance as an overall apartment vacancy rate of three percent or below.

Regional Fair Share Allocation

The Southern California Association of Governments (SCAG) has prepared and adopted a Regional Housing Needs Assessment (RHNA) to effectuate the dispersal of this region's low income households.

The most recent RHNA figures were released in 1988. In addition to the quantification of existing housing needs, the RHNA also includes a "fair share adjustment" or "expected to reside factor" for each jurisdiction in the region. State law requires taking the following 6 criteria into account when determining the distribution of regional housing needs to jurisdictions: 1) market demand for housing, 2) employment opportunities, 3) suitable sites and public facilities, 4) commuting patterns, 5) type and tenure of housing needs, and 6) housing needs of farm workers.

Factors relating to suitability and equability are determined by local income distribution, employment opportunities, assessed valuation of real property, and per capita sales tax revenues. The amount of additional households to which Costa Mesa should be directing its housing opportunities primarily results from the rate of current and projected employment opportunities.

Fair-share adjustments are stated in terms of positive and negative numbers. A positive fair-share figure means a city should be making an affirmative effort to provide housing opportunities for more lower income households than presently reside in the city. A negative fair-share figure, according to the model, indicates that a city's commitment should be to serve the lower income households presently within its jurisdiction and that some of its lower income households should be redistributed among surrounding cities with positive fair-share figures. Costa Mesa has a positive fair-share figure, as do most Orange County cities. The adopted RHNA sets Costa Mesa's fair-share adjustment at 3,963 households.

The current RHNA corresponds to a higher employment growth projection than adopted in the 1990 General Plan. As such, it can be argued that based on the reduction in nonresidential intensities and, therefore, future employment generation potential, the RHNA is overstated for Costa Mesa.

LOCAL HOUSING CHARACTERISTICS

Costa Mesa's ability to provide its citizens with adequate housing opportunities is influenced by a number of external variables which are often beyond the control of the City. Costa Mesa does not exist in isolation but is in fact, a part of a regional housing market which includes most of Southern California. The market is dynamic with the impacts of various trends and conditions being felt in all or portions of Los Angeles, Orange, San Bernardino, Riverside, San Diego, and Ventura Counties. This section will provide a description of Costa Mesa's role in the large scale housing market and a review of market forces which impact the City.

Existing Housing Stock

Costa Mesa provides its citizens with a wide variety of housing opportunities in terms of unit type, size, age, location, price, and ownership/rental arrangements.

Costa Mesa's housing stock as of January 1, 1988, contained 37,282 dwelling units which include single-family units (17,535 units, 47 percent), multi-family units (18,794 units, 50.4 percent), and mobile homes (953 units, 2.6 percent). Approximately 1,812 persons (2.0 percent of the total population) live in group quarters (Fairview Hospital, Southern California College dormitories, rest or guest homes, and the City Jail) which are not included in this inventory. A majority of these persons (980) occupy Fairview Hospital.

An additional 1,426 units are located in unincorporated areas within the City's sphere of influence. Of this total, 222 units (15.6 percent) are single-family homes; 1,147 units (80.4 percent) are apartments, and 57 units (4.0 percent) are condominiums. No mobile homes are located in these areas. The following table provides a comparative inventory of the City, unincorporated areas, and total planning area.

TABLE 35: HOUSING INVENTORY (1988)

	CITY		UNINCORPORATED AREAS		TOTAL PLANNING AREA	
	Units	Percent	Units	Percent	Units	Percent
Single Family	17,535	47.0	279	19.6	17,814	46.0
Apartment	18,794	50.4	1,147	80.4	19,941	51.5
Mobile Home	953	2.6	0	0	953	2.5
TOTALS	37,282	100.0	1,426	100.0	38,708	100.0

From 1960 through 1979, housing production in Costa Mesa averaged approximately 1,100 units per year (21,068 units between 1960 and 1979). The decade of the 60's averaged a slightly higher rate (12,885 units between 1960 and 1970; 1,288 annual average) while the production rate between 1970 and 1979 was slightly lower (8,183 units between 1970 and 1979; 909 annual average). From 1980 through 1988, the average annual production rate declined to 410 units, with a low of 133 units in 1982. From 1988 to 1990, a total of 2,329 units were added. The 1990 Census states that the City's housing stock increased to 39,611 dwelling units, comprised of 18,720 single-family units, 19,649 multiple-family units and 1,242 mobile homes.

A majority of the City's housing stock is relatively new but is showing signs of declining maintenance and increased deterioration. Of the City's total housing inventory, 14.2 percent (5,613 units) was built between 1980 and 1990. Nearly one-fourth (23.4 percent (9,282 units) was built between 1970 and 1980; 32.5 percent (12,885 units) was built between 1960 and 1970; 22.7 percent (8,979 units) was built between 1950 and 1960; 4.4 percent (1,735 units) was built between 1940 and 1950 and 2.8 percent (1,117 units) was built prior to 1940.

Severe physical deterioration is not a significant housing problem in Costa Mesa. Existing housing rehabilitation programs are successfully correcting code violations and maintaining the housing stock.

The distribution of dwelling units in Costa Mesa has shifted from a single-family residence dominated inventory to a rental housing dominated inventory. The proportion of ownership and rental households has changed to 61.6% rental and 38.9% ownership based on the 1990 Census. This trend in Costa Mesa runs counter to the national trend which saw the majority of households prior to World War II as renters but by 1980 reflected a 65/35 ratio in favor of ownership households based on the 1980 Census.

Vacancy rates have often been used to determine the health of a local housing market. According to SCAG, vacancy rates approximating 4 percent overall, 2 percent for ownership units and 5 percent rental units, are ideal to provide an adequate return for property owners and to provide for adequate "turnover" and mobility within the local market. The 1987 Postal Vacancy Survey noted an overall vacancy rate of 2.0 percent for all units and rates of 0.7 percent for single-family detached, 2.7 percent for single-family attached, 3.1 percent for multi-family, and 4.1 percent for mobile homes. Local data collected in 1988 showed a higher rental vacancy rate reflecting the recent completion of a number of large apartment complexes. The 1990 Census revealed an overall vacancy rate of 5.4 percent for all units: 1.7 percent for single-family units and 7.5 percent for multiple-family units.

Residential developments of all types occupy approximately 45 percent of the City's developable land area.

Housing Costs. One of the major barriers to housing availability is the cost of housing. Regional home prices of existing single-family residences tripled between April 1970 and April 1979. From 1979 to 1985 the rate of increase slowed but the overall average price still increased approximately 50 percent during this time period. From 1986 to 1988 prices climbed another 35 percent; however, presently housing prices are on the decline.

The median sales price of new homes in Orange County was \$171,000 in 1986. By 1990, the median sales prices in Orange County had increased to nearly \$250,000. A 1991 survey by the Los Angeles Times reported that the median had dropped to \$230,000.

Housing Inventory. The inventory of existing and newly constructed units is another important component of the regional housing crisis. Two aspects of the regional housing inventory have direct cost implications. First, the rate of housing production controls the absolute number of units available for occupancy at a given time and represents a primary component of the supply and demand equation. Second, specific dwelling unit characteristics (unit type, size, location, and design) are often the primary determinants of the sales price or rent of the individual unit being produced.

Statewide, building permits for new housing units decreased steadily from 270,900, issued in 1977, to a low of 85,700, issued in 1982. Building permits increased rapidly to a high of 314,600 in 1986, by 1990 permits were back down to 164,500.

A trend in the inventory of newly constructed units relates to the increasing proportion of multiple-family units as a part of the regional housing stock. Multiple-family construction has increased from approximately one-third of the total production to just less than half between 1975 and 1984 to over half (59 percent) between 1985 and 1986 then back down to approximately one-third in 1990. Here, many of the constraints which limit overall housing production (increases in land and construction costs and decreases in amount of readily developable land) combine with higher demands for housing to justify higher density developments. Much of this growth in the multiple-family sector was the result of activity in the condominium market rather than the apartment market. This trend has been fueled by high land costs, interest rates, and the threat of rent control.

This trend to high density development is felt throughout the region, especially in Costa Mesa. 1979 was the first year in which citywide totals for multiple-family units (apartments and condominiums) exceeded the number of single-family units. The proportion of multiple-family units within the total inventory has increased steadily during the late 1960's and 1970's. This trend toward higher density is the result of many factors. High land and construction costs, a limited inventory of land available for single-family development, and the conversion of older single units on large lots to multiple-family units are the three most significant factors.

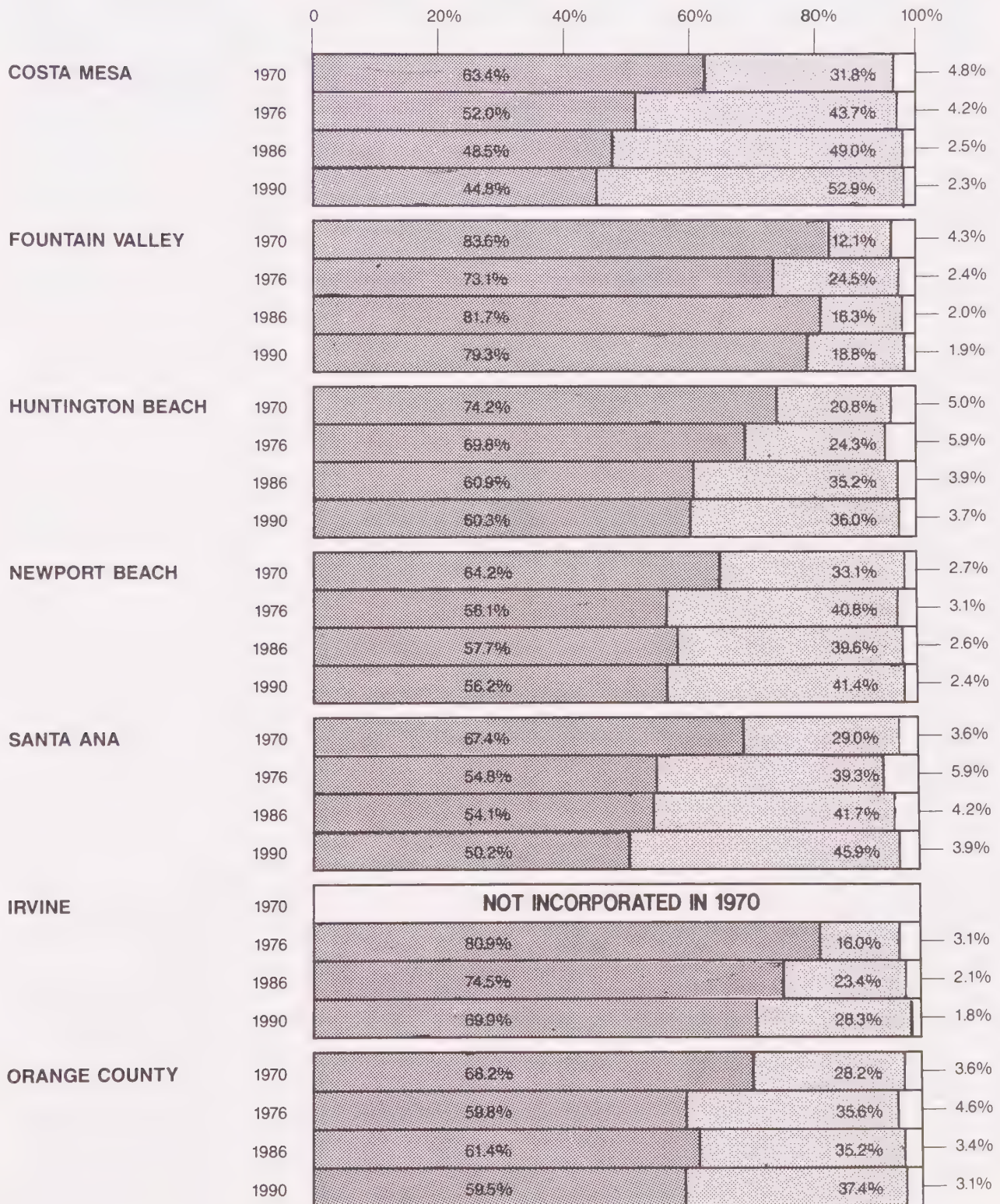
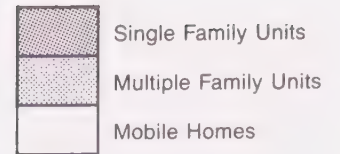
The surrounding cities and the County of Orange are also affected. This point is graphically illustrated by Figure 46, which identifies the proportions of single-family, multiple-family, and mobile homes for the years 1970, 1976, 1986 and 1990, for the cities of Costa Mesa, Fountain Valley, Huntington Beach, Newport Beach, Santa Ana, Irvine, and the County of Orange.

From 1970-1976 the share of multiple-family units increased in each jurisdiction. During the years between 1976 and 1990, this trend continued in most of the jurisdictions. As noted for the 1990 data, Costa Mesa is the only jurisdiction within the local area which has a majority of multiple-family units.

Increased building activity in the multiple-family sector has reduced the inventory of mobile homes. Again, high land costs and the limited amount of vacant residential land are responsible for this trend. Also, no new mobile home parks have been developed in Costa Mesa since 1968 to replace the supply of converted units.

While multiple-family housing provides needed housing to one segment of the community, it is important to maintain a diversity of housing types. Rental units tend to be small units with fewer bedrooms than ownership housing, and therefore, tend not to be attractive to families. Also a predominance of rental housing leaves little opportunity for existing renters to "move up" to ownership housing within the community.

DWELLING UNIT TYPES FIGURE 46



Source: 1970 Census
1976 Census
1986 & 1990 State Department of Finance

Housing Market Influence

The housing market in which Costa Mesa exists is influenced by a number of external and internal conditions which impact local housing supplies, costs, and opportunities. External influences are those conditions, trends, or attitudes which operate at the national and state levels. Quite often these stimuli exert influence throughout the Southern California region. Some of these impacts relate directly to the region's favorable climatic and economic conditions which encourage high levels of in-migration and contribute to strong employment gains. Other impacts can be attributed to federal monetary policies which impact the supply of money in the economy and to federal and state budgetary/funding policies which impact housing-related programs and agencies. Each of these influences can have positive or negative impacts on the regional housing market depending upon the nature and extent of the stimuli and the condition or viability of the local market at the time of interaction.

Internal influences are trends or conditions which operate between the individual counties and cities which comprise the regional market. Such impacts can be illustrated by the historical growth of Orange and Ventura Counties based on migration from Los Angeles County and the growth in Riverside and San Bernardino Counties triggered by high housing costs in both Los Angeles and Orange Counties. Demographic shifts relating to rising household formation rates and to increasing numbers of existing residents becoming first-time buyers also impact the need for housing within the region.

One method to reduce housing need would be to reduce employment-generating land uses. Since the RHNA model is regional in scope, a reduction in future jobs in Costa Mesa would not translate directly into a reduction of future employees seeking housing within the City, although it would reduce the future housing need of the region. The 1990 General Plan does significantly reduce the future job potential in the City.

The actions of various cities within the region can result in significant housing impacts which extend beyond the limits of the initiating jurisdiction. Direct or indirect exclusionary zoning policies in one city may increase the burden of surrounding communities to provide lower and moderate income housing. A similar situation can arise when one community aggressively develops its commercial and industrial base while restricting residential construction to provide needed housing for the subsequent employees of the new businesses or industries. Enactment of growth limitation policies or building moratoriums can increase development pressures in adjacent cities, while the adoption of a strict condominium conversion ordinance may increase the rate of conversions in neighboring communities without such controls. Quite often, actions such as these which are viewed as beneficial to the initiating jurisdiction may actually compound adverse conditions in adjacent communities.

These external and internal influences have combined to create a housing market characterized by high rental and acquisition costs as well as low vacancy rates in all forms of housing. As these conditions become more critical, increasing numbers of households are priced out of the housing market. Limitations on housing opportunities for low and moderate income employees may force major industrial firms to relocate facilities to areas of lower costs and larger labor pools. These are key issues which will be the subject of further review and analysis in the sections to follow.

HOUSING NEEDS

Development of a comprehensive housing program relies on an accurate assessment of the nature and scope of Costa Mesa's existing and anticipated housing needs. This assessment involves an in-depth review of the community's population and housing characteristics as well as local market constraints which hinder housing production. These analyses will determine special areas of concern and identify current and future unmet housing needs.

Population Characteristics

As Costa Mesa's population has expanded from 16,685 persons at the time of incorporation in 1953 to 37,550 in 1960, 72,679 in 1970, 76,404 in 1976, 82,562 in 1980, and to 96,357 in 1990, it has also experienced many significant demographic changes. Generally, the City's population has become older (median age of 22 in 1960, 26.5 in 1970, 28 in 1976, 28.9 in 1980, and 31.3 in 1990) and the average household has become smaller (average per household population of 3.21 in 1960, 2.92 in 1970, 2.57 in 1976, 2.54 in 1980, and 2.51 in 1990). Such conditions reflect the relative decrease in the number of children and the increase in the proportion of elderly citizens in the population. Also, the population has become more affluent (median family income of \$6,781 in 1960, \$11,334 in 1970, \$14,240 in 1976, and \$22,485 in 1980) and more integrated (percentage of minority households less than one percent in 1960, 2.33 percent in 1970, 7.53 percent in 1976, 10.11 percent in 1980, and 28.0 percent in 1990). These trends are expected to continue into the foreseeable future.

Another trend which has significant housing impacts is the relative rate of growth in the population as compared to the relative rate of growth in the number of households. Numerous factors (i.e., increases in the number of marriage dissolutions, the number of first-time buyers entering the market, and the number of single-person households) have combined to escalate the rate of household formation far beyond the actual population growth rate. Between 1960 and 1970 the population increased 93.6 percent, while the number of households increased 108.6 percent. This trend was even more dramatic in the next six years when the population increased only 5.1 percent but the number of households increased 20.7 percent. From 1976 to 1980 population increased 8.1%, while the number of households increased 13.9%. From 1980 to 1990 the population increase nearly matched the growth in the number of households. This trend is not limited to Costa Mesa but is

national in scope and is consistent with an aging population. As such, this demographic shift has significant and far-reaching implications relating to the demand for new housing opportunities. It could also lead to an underutilization of the housing stock due to the number of single persons, senior citizens or "empty nesters" living in large (often times, three or more bedroom) houses.

While household incomes in Costa Mesa have increased, they have increased at a slower rate than the overall County rate. The median income in 1976 (\$14,240) was slightly less than the median income for the County (\$14,497). The median income in 1979 for the City was \$19,309 while the overall County median was \$22,258. The estimated City Median in 1988 is \$39,191, based on a County median of \$45,176. This difference can also be seen by comparing the income distribution of both the City and the County. The following table and Figure 47 illustrate this point.

TABLE 36: INCOME DISTRIBUTION (1980 CENSUS)

INCOME CATEGORY	COSTA MESA		ORANGE COUNTY	
	NUMBER OF HOUSEHOLDS	PERCENT OF HOUSEHOLDS	NUMBER OF HOUSEHOLDS	PERCENT OF HOUSEHOLDS
\$ 0 - 4,999	2,920	9.0%	48,041	7.0%
\$ 5,000 - 7,499	1,932	5.9%	34,086	5.0%
\$ 7,500 - 9,999	2,247	6.9%	37,789	5.5%
\$10,000 - 14,999	5,015	15.4%	87,031	12.7%
\$15,000 - 19,999	4,750	14.6% Low 45.4%	87,127	12.7% Low 37.3%
\$20,000 - 24,999	4,407	13.5%	88,229	12.8%
\$25,000 - 34,999	5,480	16.8% Mod 22.8%	137,362	20.0% Mod 21.8%
\$35,000 - 49,999	3,857	11.8%	104,242	15.2%
\$50,000 and over	1,953	6.0%	63,152	9.2%

County Median: \$22,258

Low (0 - 80% of Median): \$0 - 17,806

Moderate (80% - 120%): \$17,806 - 26,710

Household income is an important factor in determining housing need because of the costs of adequate housing the ability of households to afford this housing. Census data indicates that in 1976 over one-third (35.1 percent) of all households paid more than 25 percent of their income for housing, by 1980 nearly one-half (46 percent) paid more than 25 percent. Within this total, 28.9 percent of the ownership households fell into this category while 55.8 percent of the renter households are also included. Since 1976, however, housing costs have increased much faster than personal income and it can be assumed that new buyers are paying a much higher percentage of their income on housing. In 1980, 13.7 percent of the ownership households and 33.5 percent of the renter households were paying in excess of 35 percent of their income for housing. As such, the number of households paying in excess of 25 and even 30 percent of their income on housing could be expected to increase. This is not unique to Costa Mesa, steep housing costs at all levels of the housing market exist throughout Orange County.

INCOME DISTRIBUTION (1980 CENSUS)

COUNTY MEDIAN
\$22258

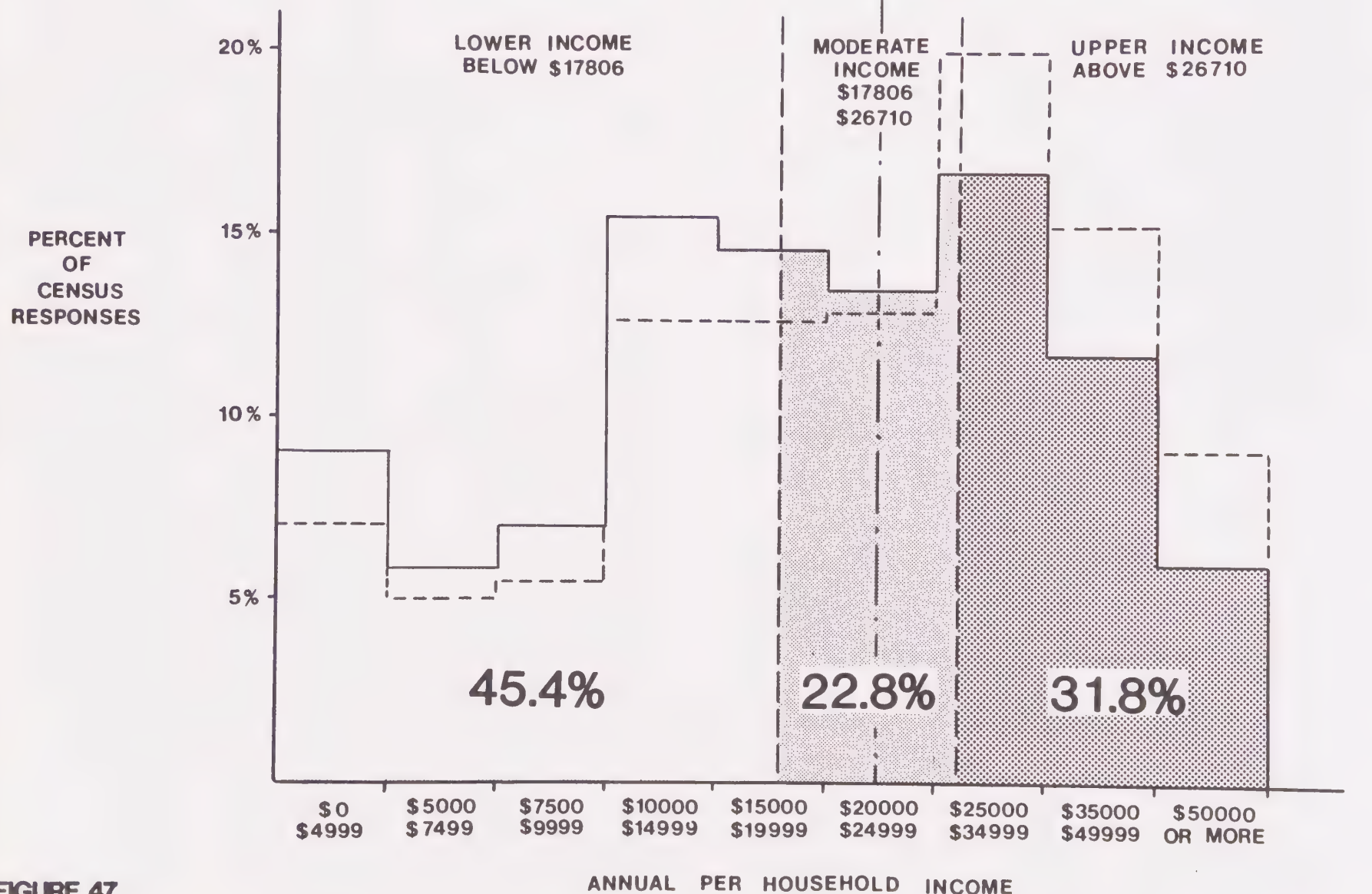


FIGURE 47

ANNUAL PER HOUSEHOLD INCOME

--- COUNTY INCOME DISTRIBUTION

Special households (elderly, handicapped, female head of household, and large families) have unique housing needs which may not be provided for in the open market. Data from the 1990 Census indicates that 21.6 percent of the City's households include a member 60 years of age or older; 29.3 percent of all households are headed by a female and 9.9 percent of all households contain five or more persons. Based on countywide information from the State Rehabilitation Department, approximately 10.0 percent of all households contain at least one handicapped person.

The demographic profile of a community is a primary determinant of housing needs. Characteristics such as household size, age, income, or special needs generate demands for specific housing types. Generally, these characteristics form the demand side of the supply and demand equation within the housing market. When the two sides of the equation are not balanced, voids are created in the form of unmet housing needs or overbuild inventories.

Once the existing socio-economic conditions are known, projections of future conditions and comparisons between the existing and anticipated housing supply are made. Development and implementation of a comprehensive housing program based upon the current and future housing needs follows. This section provides an overview of the existing population characteristics needed to complete the first step. Subsequent sections will provide needed input to complete the remaining steps in this process.

Market Constraints

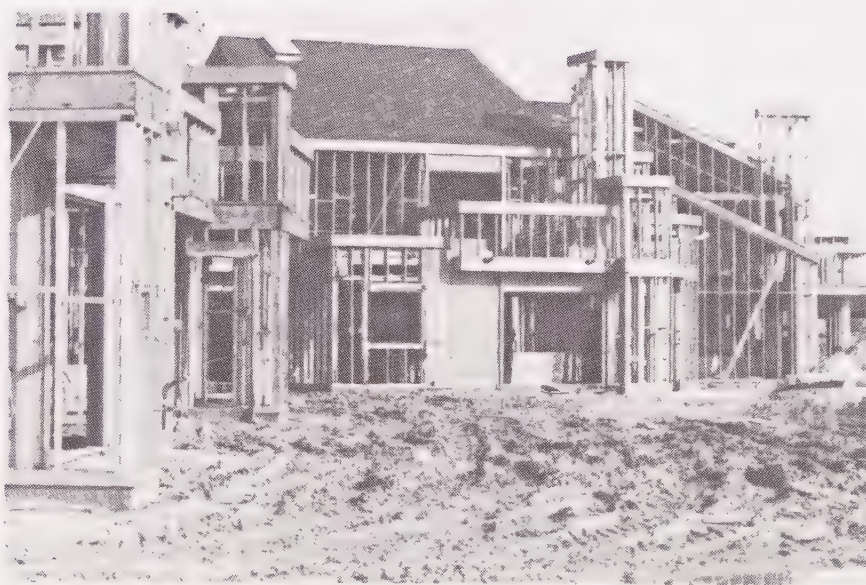
Discussions in previous paragraphs have noted, in a general manner, various aspects of the supply demand relationships of the housing delivery system. However, because of the complex nature of the housing market, equilibrium within the system is difficult to attain, and even more difficult to maintain for any length of time. Numerous factors combine to complicate the housing market. Many factors, or constraints, actually impede or inhibit the ability of the factors in the market to provide adequate housing opportunities to meet the demand in Southern California. The following paragraphs will review these constraints from both the private and public sector perspective.

Private Sector. The private market influences the selling and rental prices of all types of housing, including both existing or new dwelling units as well as both ownership and rental dwelling units. While actions within the public sector play important parts in determining the cost of housing, this aspect is defined as a private sector constraint because it reflects the net costs of doing business and represents the bottom line or primary concern of the product consumer.

Housing costs are a major concern in an area where the median County home sale price was nearly \$250,000 in 1990, as reported by the Los Angeles Times in February 1990. Even though the median price dropped to \$230,000 in 1991, a majority of the existing population could not afford to move to Orange County today. This situation has important implications for future employment expansion in the commercial and industrial sectors.



Costa Mesa's ability to provide sufficient housing opportunities to meet high consumer demand is constrained by a rapidly dwindling supply of vacant residential land.



Another constraint is the cyclical nature of the housing industry. Housing production can vary widely from year to year with periods of above-average production followed by periods of below-average production. Fluctuations are common in most industries but appear to be more dramatic in the homebuilding sector because of susceptibility of the industry to changes in federal fiscal and monetary policies.

Traditionally, interest rates and financing charges (in response to federal monetary policies) have impacted the housing industry in two ways. First, because developers must borrow money to construct their product, and second, because homebuyers must borrow money to purchase the completed units. While higher interest rates have historically resulted in a reduction in new construction and sales, the high demand in mid- and late-1979 continued in spite of 14 to 15 percent interest rates. By the early 1980's new construction and sales dropped off dramatically as interest rates crept even higher. When rates leveled off, construction picked up in the late 1980's.

Interest rates impact housing costs in two ways. First, the costs of borrowing money for the actual development of the dwelling units are incorporated directly into the sales price or rent. Second, the interest rate of the homebuyer's mortgage is reflected in subsequent monthly payments. Often the monthly costs are more critical to the homeowner than the final sales price. As such, variations in interest rates can price many consumers out of the housing market. For example, a 30-year loan of \$150,000 financed at 9 percent translates into a monthly payment of \$1,206 while a similar loan at 13 percent increases the payment to \$1,659 per month.

Other factors which have led to increased housing prices are the costs of land and construction. A September 1979 appraisal of City-owned park sites indicates the appraised value of single-family residential land ranges from \$165,000 to \$250,000 per acre (average value of approximately \$207,300) while the value of multiple-family residential land ranges from \$194,000 to \$381,000 per acre (average value of approximately \$304,400). These values translate into a per unit cost of \$33,000 to \$50,000 for single-family residences and \$13,100 to \$25,400 for multiple-family units, accounting for between 20 and 30 percent of total housing costs. A 1991 appraisal indicated an average value of residential land is \$80,000 per single-family unit and \$50,000 to \$70,000 per multiple-family unit.

Construction costs in 1979 ranged from \$27.60 to \$36.40 per square foot for single-family units and from \$26.00 to \$31.60 per square foot in multiple-family units according to a January 1979 study by Building Standards magazine.

By 1991, construction costs increased to \$ 51.50 to \$ 72.90 per square foot for single-family units and \$49.80 to \$76.80 per square foot for apartment units. Such costs can account for between 35 and 45 percent of the total housing costs. Rising construction

costs also impact the ability of homeowners or landlords to provide needed rehabilitation of substandard dwelling units.

Product design and consumer expectations also influence the types and styles of units being constructed in this area. Today's new homes are quite different than those produced during the 1960's. Numerous interior and exterior design features (larger master bedroom suites, microwave ovens, trash compactors, dishwashers, wet bars, decorative roofing materials, exterior trim, and architectural style) make it difficult to make direct comparisons in costs over the years. In a highly competitive and sophisticated market such as Southern California, many consumers consider these "extra touches" as necessities when buying a new home. While the basic shelter or "no frills" house has met with varying degrees of consumer acceptance, the high costs of homeownership may lead to a return to less complicated designs.

A significant constraint to many families is the specific design features (lack of recreational facilities or unit size and design) in individual projects which are not suited for children. Although less noticeable to the average consumer, many design features such as stairs, hallways, doorways, counters, and plumbing facilities effectively restrict access to handicapped persons.

Public Sector. Actions or policies of numerous governmental agencies, whether involved directly or indirectly in the housing market, can impact the ability of the private sector to provide adequate housing to meet consumer demands. One example, the impact of federal monetary policies, was introduced in the preceding discussion. Federal budgeting and funding policies of a variety of departments can either stimulate or depress various aspects of the housing industry. Local or state government compliance or the enactment of sanctions (sewer connection or growth moratoriums) for noncompliance with the federal Clean Air and Water Pollutions Control Acts can impact all types of development.

State agencies and local government compliance with state statutes can complicate the development of housing. Although of relatively minor significance in Costa Mesa, the Coastal Act and actions of the Coastal Commissions have combined to lengthen the permit approval process for housing development in areas of their jurisdiction. Other statutes such as the California Environmental Quality Act and sections of the Government Code relating to rezone and General Plan amendment procedures can also act to prolong the review and approval of development proposals by local governments. In many instances, compliance with these mandates establishes time constraints which cannot be altered by local governments.

Local governments exercise a number of regulatory and approval powers which directly impact residential development within their respective jurisdictional boundaries. These powers establish the location, intensity, and type of units which may or may not be developed. The City's General Plan, zoning regulations, project review and approval procedures, development and processing fees, utility infrastructure, public service capabilities, and develop-

ment attitudes all play important roles in determining the cost and availability of housing opportunities in Costa Mesa.

Of paramount concern is the General Plan. This policy document not only establishes the location and amount of land which will be allocated to residential development, but also establishes the intensity of development (in terms of unit densities and total number of units) which will be permitted. While nearly all components or elements of the General Plan contain goals and policies which influence residential development, it is the Land Use Element which has the most direct influence.

In the 1990 General Plan, 3,955 acres were designated for residential development. Of this total, 2,283 acres were designated for low density development, 816 acres were designated for medium density development, 856 acres were designated for high density development. In 1990, 100 acres of the area designated for residential development were still vacant.

The current land use designations would allow approximately 2,180 units on the existing vacant residential acreage. A breakdown of the vacant land acreage per land use designation follows:

Low Density Residential (8 du/ac)	-- 1 acres
Medium Density Residential (12 du/ac)	-- 53 acres
High Density Residential (20 du/ac except for area north of I-405 Freeway where 25-35 du/ac is allowed)	-- 46 acres

Due to the limited supply of available vacant residential land, future residential development will depend on private or public redevelopment of underdeveloped and underutilized land or reallocation of nonresidential property to residential uses. This situation is expected to result in even higher increases in the cost of housing than in the past because of higher land costs associated with acquiring and demolishing existing older structures. An increase of approximately 4,200 units is possible from redevelopment in addition to the 2,180 units possible from development of vacant land. The units possible from new development and redevelopment do not include single room occupancy hotels or granny units or the residential portion of future mixed-use development in the Urban Center Commercial land use designation. In addition, the development projections do not include approximately 200 additional units that could be developed in the 30-acre Whittier Avenue industrial area.

Two aspects of the local government role in the housing delivery system have been criticized as placing undue burdens on the private sector's ability to build affordable housing. These are (1) the time delays caused by the review and approval process, and (2) the fees or other exactions required of developers to obtain project approval. Critics contend that lengthy review periods increase finance and carrying costs and that fees and exactions increase

expenses which are in part passed onto the prospective homebuyer in the form of higher purchase prices or rents.

The time required to process an individual development varies tremendously from one project to another and is directly related to the size and complexity of the proposal and the number of actions or approvals needed to complete the process. Table 37 identifies the most common steps in the development review process. It should be noted that each project does not necessarily have to complete each step in the process (i.e., moderately sized projects consistent with the General Plan and zoning designations do not generally require Environmental Impact Reports, General Plan Amendments, Rezones, or Variances). Also, certain review and approval procedures can run concurrently. Since a majority of the Environmental Impact Reports are prepared in response to a General Plan Amendment request, these two actions are often processed simultaneously. Costa Mesa also encourages the joint processing of related applications for a single project. As an example, a rezone petition for a Planned Development Zone may be reviewed in conjunction with the required Development Plan, a tentative tract map and any necessary variances. Such procedures save time, money and effort for both the public and private sector.

For many of the necessary development approvals, the City of Costa Mesa charges fees to help defray processing costs. Table 37 indicates the fee for each of the development approvals listed. Fees, land dedication, or improvements are also required in most instances to provide an adequate supply of public park land and to provide necessary public works (streets, sewers, and storm drains) to support the new development. While such costs are charged to the developer, most, if not all additional costs are passed onto the ultimate product consumer in the form of higher prices or rents.

The significance of the necessary public works improvements in determining final costs varies greatly from project to project and are dependent on the amount of existing improvements and nature of the project.

Additional off-site improvement fees which have recently been charged to new development include the following. Mesa Consolidated Water District (which serves the majority of the City) charges a capacity unit based mitigation fee. The local school districts charge a mitigation fee. In 1991, the Newport Mesa School District fee for new construction was \$1.50 per square foot except for senior housing which was charged a reduced rate of \$0.25 per square foot. The City collects a per unit mitigation fee for the San Joaquin Hills Transportation Corridor. In 1991, the San Joaquin Hills Transportation Corridor fee was \$2,185 per single-family unit and \$1,275 per multiple family unit. This fee is only assessed to property in the northern portion of the City as described in the Circulation Element. All of these fees contribute to the cost of housing.

Table 37 : DEVELOPMENT REVIEW AND APPROVAL PROCEDURES

<u>ACTION/REQUEST</u>	<u>PROCESSING TIME</u>	<u>COMMENTS</u>
Environmental Impact Report (Fee: \$25,000+)	4 - 6 Months	Required by CEQA for large projects which may have significant impacts on the environment. Processing and review time limits largely controlled by State E.I.R. guidelines. Accepted by decision making body.
Negative Declaration (Fee: \$50)	3 - 4 Weeks	Required by CEQA for projects which will not have significant impacts on the environment or projects which include sufficient mitigation measures to reduce significant impacts to acceptable levels. Processing time can be extended if the Negative Declaration is prepared for a project which has a longer review and approval time frame (i.e., General Plan Amendments or Rezones). Adopted by decision making body.
General Plan Amendment (Fee: \$725 plus \$75/acre for each acre over 10 acres)	4 - 6 Months	Required for projects which are not consistent with any element, primarily the Land Use Element, of the General Plan. Government Code Section 65358 limits the number of times any element of the General Plan can be amended each calendar year. Approved by City Council upon recommendation by Planning Commission.
Rezone (Fee: \$725)	3 Months	Required for projects which are not consistent with existing zoning classification of the property but are consistent with the General Plan. Certain procedures and time limits established by Government Code Sections 65854-65857. Approved by the City Council upon recommendation by Planning Commission.
Parcel Map (Fee: \$240 plus \$10 per lot)	3 - 4 Weeks	Required by State Subdivision Map Act for certain divisions of land for sale, lease or financing. Approved by Planning Commission.
Tentative Tract Map (Fee: \$240 plus \$10 per lot)	3 - 4 Weeks	Required by State Subdivision Map Act for certain divisions of land for sale, lease or financing and as a prerequisite to the filing of a Final Tract Map. Approved by Planning Commission.
Final Tract Map (Fee varies depending on size/complexity of tract)	1 - 4 Months	Required by State Subdivision Map Act for certain divisions of land for sale, lease or financing. Processing time varies with size and complexity of project as well as applicant/developer turn around time in responding to comments resulting from map checks. Approved by City Council.
Variance (Fee: \$450)	3 - 4 Weeks	Required by local zoning regulations when the applicant/developer is requesting relief from zoning regulations. Approved by Planning Commission.
Administrative Adjustment (Fee: \$190)	3 - 4 Weeks	Required by local zoning regulations when the applicant/developer is requesting minor relief from zoning regulations. Approved by Zoning Administrator.
Planned Development (Fee: \$725 plus \$75/acre for each acre over 10 acres)	4 - 6 Weeks	Required for development proposals in a Planned Development zoning district. Adopted by City Council upon recommendation by Planning Commission.
Development Review (Fee: \$250)	2 - 3 Weeks	Staff level review required for all multiple family residential, commercial and industrial projects not associated with a Conditional Use Permit, Variance or Development Plan application.
Plan Check/Building Permits (Fee based on building valuation and number of plumbing, electrical or mechanical fixtures)	1 - 2 Months	Processing and review time directly related to complexity and size of project as well as workload. Minor permits can be issued within a 1-4 week period.

Compliance with numerous governmental laws or regulations can also incrementally add to the cost of housing. Requirements which relate to site coverage, parking, and open space within developments can indirectly increase costs by limiting the number of dwelling units which can occupy a given piece of land. This is especially true with larger units when the bulk of the buildings and increased parking requirements occupy an increasing share of the site. In some instances, developers must decide whether or not to build smaller units at the maximum allowable density or fewer larger units at a density less than the maximum. Either solution can have different impacts on the housing market.

Building a higher number of small units can reduce costs and provide additional housing opportunities but also does not accommodate the needs of families. Larger units can be made available to families but because of their size and lower density, the cost of these units is higher.

Other development and construction standards can also impact housing costs. Such standards may include the incorporation of additional design treatment (architectural details or trim, building materials, landscaping, and textured paving) to improve the appearance of the development. Some of the concepts in the Urban Design section of the General Plan are examples. Other standards included in the Uniform Building Code, state regulations regarding noise transmission and energy conservation, and certain local codes can also result in higher construction costs. While some of these features (interior and exterior design treatments) are included by the developer to help sell the product in the competitive market, or some features (energy conservation regulations) may actually reduce monthly living expenses, all add to the initial sales price, which is becoming an increasingly difficult hurdle for many new homebuyers to clear.

Complying with Building Code standards that the City has adopted add to the cost of construction but are seen as necessary to protect the health, safety and welfare of the citizens. Compliance does result in a greater construction cost up front but should ensure that the structures retain their structural integrity.

Development Code standards, which the City actively enforces through its Code Enforcement Division, could also be seen as adding to the cost of development and upkeep. This cost is relatively minor in comparison to the cost of allowing an area to become run-down and in need of redevelopment.

Additional constraints to the provision of lower cost dwelling units are local government and citizen perceptions and bias relating to the acceptability of various housing types. Such attitudes can work to consciously or unconsciously limit the diversity of units constructed in a given community. A 1974 study conducted by the New Jersey County and Municipal Government Study Commission found the most popular housing type among local leaders was low-density, single-family housing, with townhouses (condominiums) second. Garden apartments and higher density single-family housing

were found to be acceptable in some communities while high rise or high density apartments and mobile homes were generally unacceptable. However, the study further concluded that local government officials were generally far more open to multiple family developments than were influential private interest groups (civic, environmental, or homeowner's associations). Although this study was conducted in the State of New Jersey years ago, local experience has shown that similar perceptions can be found today in varying degrees in nearly all communities, including Costa Mesa.

The City hired Opinion Research to conduct a survey of residents' attitudes relative to the General Plan update. The survey results indicated that while 79% of the respondents viewed the lack of affordable housing as a serious issue, 69% expressed concern that the increase in apartment and condominium development was a serious issue. Furthermore, 79% thought that the City should limit the number of apartments and condominiums allowed.

Public Sector Actions

The City of Costa Mesa can and has instituted actions aimed at reducing the impact of the public sector role in housing costs. Major efforts have involved the reduction in processing time. In May 1977, the City Council adopted a procedural overlay ordinance which gave the Planning Commission final approval authority over many actions (conditional use permits, variances, and certain design review functions) which previously required Council approval. Amendments to the commercial, industrial, and multiple-family residential zones in 1977 and 1978 resulted in the delegation of most site plan review responsibilities from the Planning Commission to the Staff. December 1978 amendments to the Planned Development Ordinance substantially reduced processing time of projects located in the Planned Development zones by eliminating the need of processing Preliminary Developments through the Planning Commission and Final Development Plans through both the Commission and City Council. These amendments now require approval of a single Development Plan by the Commission and Council. In 1988, the City Council adopted a Zoning Administrator Ordinance which allows some minor permits to be processed at the Staff level.

The City's processing policies regarding "piggyback" or concurrent review of related applications for a single project also reduce overall time and costs.

Although the City's processing and development fee structure accounts for less than 2 percent of the final costs, the cost implications for developers of low income housing can be significant when any increase inhibits the ability to provide units affordable to their clients. The City has installed the related public improvements for housing in the downtown area and Pomona-Wallace area. In effect, City installation results in a reduction in fees paid by private housing developers.

The City allows for accelerated building plan check by approved independent plan checking firms to speed up the processing time.

Unmet Housing Needs

The previous sections have discussed the existing nature and character of Costa Mesa's population and housing stock as well as the numerous market forces which impact the provision of adequate housing opportunities for all segments of the community. Through these discussions, specific gaps or deficiencies between the supply and demand aspects of the market have been noted. The primary purpose of this section is to further pinpoint these deficiencies in terms of existing and future conditions. By identifying the City's unmet housing needs in this manner, a comprehensive and future oriented housing program to fulfill these needs can be developed.

Existing Needs. The assessment of the City's existing housing needs focuses primarily on the community's current housing inventory and population characteristics. This analysis is based on five factors: 1) affordability; 2) overcrowding; 3) units needing rehabilitation or replacement; 4) special households (handicapped, senior citizen, minorities, large families, and other households with specialized needs); and 5) the homeless. Each of the five factors are discussed in the following paragraphs.

1. Affordability. Affordability is defined as the relationship between household incomes and housing costs. These relationships are most often expressed in terms of monthly incomes and mortgage payments or rents or also in terms of annual household incomes and sales price. While the concept of affordability is important in all segments of the population, it is especially critical for lower and moderate income households. As such, this analysis will concentrate on these households based on the following definitions of affordability:

Low Income Affordability. Households with annual incomes of less than 80 percent of the Orange County median family income can afford to spend a maximum of 25 percent of their monthly income for mortgage or rental payments and can afford to purchase ownership units costing 2.5 times their annual income.

Moderate Income Affordability. Households with annual incomes between 80 and 120 percent of the Orange County median family income can afford to spend a maximum of 30 percent of their monthly income for mortgage or rental payments and can afford to purchase ownership units costing 3.0 times their annual income.

Based on these definitions, 1990 Department of Housing and Urban Development estimate of the Orange County median family income of \$49,100 and the 1990 Income Eligibility Limits published by State Department of Housing and Community Development, it is possible to calculate the rent and cost range of affordable housing for each income category. This information is provided in the following table.

TABLE 38: AFFORDABILITY RANGES

<u>Income Category</u>	<u>Income Range</u>	<u>Sales Price</u>	<u>Monthly Payment</u>
Low	Below \$35,700	Below \$89,250	Below \$744
Moderate	\$35,700 - 58,920	\$107,100 - 176,760	\$893 - 1,473

By comparing this table with housing cost data, it can be seen that nearly all of the low income households are priced out of the current market of for sale housing. A review of real estate listings in December 1990 found a total of fifteen condominium units that were listed for sale with a price range affordable to moderate income households. The lowest listing was \$139,000 for a 2-bedroom unit.

A 1990 survey of apartment complexes yielded the following rental rate information:

<u>Unit Size</u>	<u>Average Monthly Rent</u>	<u>Range</u>
studio	\$ 510	\$ 200 - \$ 830
1 bedroom units	\$ 610	\$ 300 - \$ 900
2 bedroom units	\$ 740	\$ 200 - \$1,850
3 bedroom units	\$ 910	\$ 400 - \$1,700

Data from the 1980 Census indicated that a total of 46.0 percent of the City's households paid more than 25 percent of their income for housing. Within ownership households, 28.9 percent paid more than one-fourth of their income for housing. The figure was much higher for renter households; 55.8 percent.

TABLE 39: HOUSING COSTS
BY INCOME AND HOUSEHOLD TYPE

<u>Type of Household</u>	<u>Number of Households</u>	<u>More Than 25% Number</u>	<u>Percent</u>	<u>More Than 30% Number</u>	<u>Percent</u>
With Income Below \$9,999					
Owner	1,213	703	58.0%	626	51.6%
Renter	5,236	4,644	88.7%	4,221	80.6%
Total	6,449	5,347	82.9%	4,847	75.2%
With Income Between \$10,000 and 19,999					
Owner	1,885	860	45.6%	596	31.6%
Renter	7,056	5,000	70.9%	1,977	28.0%
Total	8,941	5,860	65.5%	2,573	28.8%
With Income Above \$20,000					
Owner	7,644	1,546	20.2%	633	8.3%
Renter	6,274	725	11.6%	13	0.2%
Total	13,918	2,271	16.3%	646	4.6%

SOURCE: 1980 Census

TABLE 40: HOUSING CONDITIONS

STATUS AND CONDITION OF HOUSING UNITS	ALL UNITS					OWNER					RENTER				
	Total Units	Suitable for Rehabilitation	Percent of Total	In Need of Replacement	Percent of Total	Total Units	Suitable for Rehabilitation	Percent of Total	In Need of Replacement	Percent of Total	Total Units	Suitable for Rehabilitation	Percent of Total	In Need of Replacement	Percent of Total
OCCUPIED UNITS- TOTAL	39,087	602	1.54	276	0.71	16,612	256	1.54	117	0.70	22,316	346	1.55	159	0.71
Substandard Units	878	602	68.56	276	31.44	373	256	68.63	117	31.37	505	346	68.51	159	31.49
Standard Units	38,209	-	-	-	-	16,239	-	-	-	-	21,970	-	-	-	-
VACANT UNITS-	175	23	0.13	10	0.43	75	10	13.33	4	5.33	100	13	13.0	6	6.0
Substandard Units	33	23	69.70	10	30.30	14	10	71.43	4	28.57	19	13	68.42	6	31.58
Standard Units	142	-	-	-	-	61	-	-	-	-	81	-	-	-	-
HOUSING STOCK AVAILABLE- TOTAL	39,262	625	1.59	286	0.73	16,687	266	1.59	121	0.73	23,316	359	1.54	165	0.71
STANDARD HOUSING STOCK AVAILABLE- TOTAL	38,351	-	-	-	-	16,300	-	-	-	-	22,051	-	-	-	-

(GP-TBL.40)

The incidence of families paying a disproportionate share of their incomes for housing is highest among lower income households. The 1988 Regional Housing Needs Assessment indicates that 7,938 low income households pay more than 30 percent of their income on housing. This allocation is based on the proportion overpaying in 1979 (1980 Census). It has not been adjusted to account for subsidized units added since 1980. Of the 7,938 low income households overpaying for housing, it is estimated that 1,032 own their homes while 6,906 rent their units.

2. Overcrowding. The degree to which a dwelling unit is "overcrowded" is an important factor in determining housing needs. By standard definition, a unit is overcrowded if it houses 1.01 or more persons per room (exclusive of kitchens, bathrooms, or other nonhabitable rooms). High levels of overcrowding could indicate a lack of dwelling units of sufficient size to meet the needs of large families or could indicate that, because of high housing costs, households are forced to purchase or rent smaller-than-desirable units or that more than one family or members of an extended family (relatives of the primary household such as grandparents, in-laws, or married children) are forced to occupy the same dwelling unit.

Generally, overcrowding is not a widespread problem in Costa Mesa. The 1980 Census indicated that 4.9 percent of the units were overcrowded (1,593 units). 1990 Census data indicates that this number has increased to 3,698 units (9.8 percent of all occupied units: 14 percent of all rental units and 3.3 percent of all owner occupied units). One area where overcrowding is prevalent is Shalimar Drive. The City is working with the property owners to assist them in rehabilitating their deteriorating units on Shalimar Drive.

3. Units Needing Rehabilitation or Replacement. The ability of the City's housing stock to provide adequate housing opportunities for the community is tempered by the amount of units which are in need of substantial rehabilitation or are in need of complete replacement. The most recent assessment of the condition of the City's housing stock is included in the Community Development Block Grant Application. This assessment was based upon the SCAG Regional Housing Needs Assessment (RHNA). The condition of all units (owner and renter as well as occupied and unoccupied) in 1988 is noted in Table 40. Table 40 indicates that physical deterioration is not a significant housing problem in Costa Mesa at this point in time.

Code enforcement activities are useful in ensuring adequate property maintenance standards, but the difficulties of housing economics frustrate the use of the police power. Therefore, there is a need to encourage owners, occupants and apartment owners to rehabilitate their structures so as to maintain the vitality of the community.

One method the City uses to encourage property maintenance is the pass-through of Federal HUD and CDBG funds to finance necessary improvements to homes and apartments through rental rehabilitation and owner improvement loans.

4. Special Households. Special types of households have unique and specialized needs which are often neglected in the free market system. Five types of households were analyzed in terms of their specialized needs: 1) handicapped (households with at least one physically or mentally handicapped member); 2) elderly (head of household at least 62 years of age); 3) minorities (head of household of Latin, Asian, African, American Indian or other descent); 4) female-headed households; and 5) large families (households of five or more persons). The number and distribution of these households within Costa Mesa is noted in Table 41.

Farmworkers have not been identified as special households in need of assistance since there is very little farmland left in Costa Mesa. Farmland that does exist in Costa Mesa is not farmed by transient farmworkers but rather by established area residents.

Each household type faces unique obstacles in its search for suitable living accommodations and creates different demands on the City's housing stock. Many design features of traditional developments restrict access to and mobility within many dwelling units for handicapped individuals. Elderly households dependent upon social security, retirement, pension payments, or other forms of fixed incomes can be hardest hit by escalating housing costs; however, there are also low income senior residents who pay minimal mortgages due to the length of time that they have lived in their homes. Many large families are forced to make difficult compromises between dwelling units which are of sufficient size and those which are smaller but more affordable. Although not widespread, minority households are subject to varying degrees of discrimination. One common denominator of all five household types is affordability. For a variety of social and economic reasons, these households account for a disproportionate share of the City's households in need of assistance.

The severity of this problem can be seen by comparing the number and type of households receiving Section 8 Housing Assistance Payments administered by the Orange County Housing Authority (OCHA). Section 8 qualification is based strictly on income level. There is no priority given to special needs households; however, once qualified for assistance, medical expenses may be considered when adjusting income and the ability to pay rent. There is a great shortage of units to fill the need of qualified applicants. Since 1975, 2,587 Costa Mesa households have received housing assistance payments. According to OCHA, there are 1,152 Costa Mesa households on the waiting list for assistance, while 461 currently receive Section 8 certificates and 64 receive housing vouchers.

TABLE 41: SPECIAL HOUSEHOLDS

<u>Type of Household</u>	<u>Total Number of Households</u>	<u>Number of Households Requiring Housing Assistance⁵</u>		
		<u>Total</u>	<u>Owner</u>	<u>Renter</u>
Handicapped ¹ -	[3,720]			
Large Family		137	19	118
Small Family		558	78	480
Elderly		111	23	88
Single Person		540	76	464
Single Female Head of House with Children	6,030	2,462	345	2,117
Single Male Head of House with Children	1,980	625	87	538
Elderly ²	7,850	1,543	324	1,219
Minority ³ -	[2,660]			
Large Family		133	19	114
Small Family		1,055	148	907
Elderly		308	65	243
Large Family ⁴	3,370	666	93	573
Small Family	10,580	5,269	738	4,531

1. At least one member physically or mentally handicapped (estimate by State Rehabilitation Department).
2. Head of household at least 60 years of age.
3. Head of household of Latin, Asian, African, American Indian or other minority descent.
4. Households with five or more members.
5. Low-income households paying more than 30% of their income on housing.

Sources: 1980 Census, 1988 Community Development Block Grant Applicant.

5. The Homeless. Based on interviews with social service providers, the Orange County Homeless Issues Task Force estimated 10,000 homeless people within the County, with at least 4,000 of the homeless being children. The City assists private, nonprofit homeless assistance agencies through its CDBG program.

A one month survey in 1990 by the Orange County Homeless Issues Task Force found that 46 of the respondents identified Costa Mesa as their last permanent address. The 1990 Census identified 251 homeless persons within the City.

Due to the existence of well-established homeless service agencies within Costa Mesa, the City continues to receive additional homeless individuals. It can be said that to some degree the City attracts more than its share of homeless since services are available through various well-established, private, nonprofit service organizations. Additionally, the majority of nonprofit service providers located in the City that receive funding via the City's CDBG program also serve individuals from surrounding cities.

The City has a current inventory of all vacant land. This inventory documents the size, General Plan designation and current zoning of each property. This list is available to assist shelter providers locate suitable sites for new development within the City. Homeless shelters could be permitted within any designation within the City. Such facilities would require a Conditional Use Permit within nonresidential zones. Depending on the nature of the shelter, a Conditional Use Permit may be required within residential zones.

The City will prepare an ordinance which establishes standards for homeless shelters as stated within the program section. This ordinance could allow shelters to be approved without being subject to a discretionary hearing.

The City has investigated the feasibility of acquiring repossessed residences from F.H.A. There is a program available to lease foreclosed properties for \$1.00/year for use as emergency homeless shelters. The City found that no F.H.A. foreclosures exist within Costa Mesa currently. Nevertheless, the City will continue to monitor the list of foreclosures that F.H.A. publishes.

Future Needs. Future housing needs include two primary concerns. First is the development of a five-year projection of anticipated population growth, expected household formation and growth, adjusted housing preferences of the existing and anticipated population, and expected employment growth. Second is the incorporation of the regional fair share allocation as established by the SCAG Regional Housing Allocation Model.

1. Projected Housing Demand. Estimates of future residential development and population growth have been developed by the County of Orange for the County's planning purposes. The Orange County Preferred Projections for the City of Costa Mesa are as follows:

	<u>Population</u>	<u>Housing Units</u>	<u>Employment</u>
1990	96,094	39,191	82,448
1995	98,863	40,571	99,010
2000	99,473	41,400	115,152
2005	101,535	42,600	118,091
2010	102,503	43,450	121,719

Based on the 1990 General Plan, buildout of the General Plan is projected to yield a potential of 107,350 residents, 45,200 housing units and 97,400 jobs.

The reduction in land designated for nonresidential uses coupled with the limits placed on employment generating uses via the Floor Area Ratio (FAR) assigned to the various nonresidential designations, greatly reduce future employment generation growth in Costa Mesa. Both Orange County and SCAG are in the process of revising their growth projections. The revisions should reflect the City's 1990 General Plan buildout projections.

2. Regional Fair Share Allocation. One of the major cornerstones of SCAG's areawide housing policy is the Regional Housing Needs Assessment. As currently drafted, the RHNA includes two major components. One is the assessment of current households needing assistance. It is estimated that 7,938 low income households are paying more than 30 percent of their income on housing in Costa Mesa. This portion of the RHNA has been incorporated into the Existing Needs portion of this section of the General Plan. The second component establishes the City's "fair-share adjustment", or often known as the "expected to reside" factor. The 1988 RHNA for the time period 1989-1994 indicates that 3,963 households fall into this category. By adding these two components, the City's adjusted-housing need is 11,901 households.

Costa Mesa's fair-share allocation can be further defined by the type of households which comprise the total 3,963 households. Because of income restrictions and high housing costs, it was assumed that all households are renter households. Of this total, 646 households would be in the very low income category, 892 households would be in the low income category, 991 households would be in the moderate income category, and 1,434 households would be in the upper income category.

Projections of future housing assistance needs of lower income households can be derived by combining the two components of the RHNA with additional information regarding households which can be expected to be displaced by redevelopment or conversion projects. The Community Development Block Grant Application dated, October 1988, contains such an assessment for a three-year period between October 1, 1988 and September 30, 1991. It indicates that no lower income households are to be displaced.

While the current RHNA allocation covers the time period through June 1994, the City's 1990 General Plan should reduce actual future housing need. The 1990 General Plan significantly reduces the future job potential in the City. Compared to the SCAG 88 projections of employment in the year 2010, the 1990 General Plan Land Use Element reduces the potential by 10.1 percent or over 10,000 jobs. This reduction should translate into a proportional reduction in future housing need.

UNITS AT RISK OF CONVERSION TO MARKET RATE

The California Government Code now requires that an update to the Housing Element include information on existing assisted housing developments that are at risk of being converted to market rate housing. The analysis is to be divided into two five year time frames to correspond to the required Housing Element update time schedule. The first period extends from July 1989 through June 1994. The second period extends from July 1994 through June 1999.

The California Housing Partnership Corporation (CHPC) report entitled "Inventory of Federally Subsidized Low-Income Rental Units at Risk of Conversion, 1990 Update" lists only one development within Costa Mesa, Casa Bella.

Casa Bella consists of 75 units of which 74 are affordable to seniors or handicapped tenants and one (1) is designated for the apartment manager. The development was built in the early 1980's within the City's Redevelopment Area at 1840 Park Avenue. As listed in the CHPC report, the development has HUD financial assistance through Section 221(d)(4), with a 40 year mortgage and has Section 8 new construction commitment for 20 years. The City imposed a Land Use Restriction on the development in exchange for the initial land write down, density increases, parking reductions and participation in HUD financing. The Land Use Restriction requires the development to remain as affordable senior housing for 40 years or the length of the mortgage. It also stipulates that the mortgage may not be prepaid without prior written approval of the City and HUD. Given the terms of the Land Use Restriction, the units are not at risk of being converted within either of the two five year planning time periods.

There are no developments at risk of conversion during the first five year period. One development not listed in the CHPC report is at risk of conversion during the second five year period. The Lakes at 3400 Avenue of the Arts was built during the mid-1980's with the assistance of low interest Orange County Multiple Family Revenue Bond Financing.

The bond financing of this development required that 20% of the units be maintained as affordable rental units for 10 years. The units become available for conversion to nonlow income and nonrental (condominiums) in 1997. The rental rates and income limits were set based on low income rates generated for Orange County by Chapman College. These rates are higher than HUD low income rates. Currently, the County of Orange low income limit is almost 25% higher than the rate established by HUD for Orange County. Still, this project does provide housing within proximity to the commercial/office development (employment center) in the north part of the City.

The Lakes has a total of 154 units which have rental restrictions. The development is owned by The Lakes Joint Venture. The unit mix of the restricted units is 17 studios, 70 one-bedroom units, and 67 two-bedroom units, of which none are reserved for seniors.

The Lakes apartments is part of a larger mixed-use development in the City's north end commercial/office core. The existing restricted rental rates are not affordable to the service workers but rather the working professionals. A survey of rental rates of comparable units at other large apartment complexes in the vicinity indicated that the market rents were not above, or not significantly above, the restricted rental rates at The Lakes. Based on the income and rental rates for these units, it seems reasonable to expect that the tenants could find comparably priced units in the City but maybe not within walking distance of this employment center.

The Lakes was built with the intention of converting the project to condominiums after the 10 year rental restriction ceases. The original approval for The Lakes apartments discussed the need for future tenant purchase and relocation policies if the units were to be converted to condominiums. To convert to condominiums at the end of the ten year rental restriction period might be a viable option to house working professionals near this employment center.

If conversion is pursued, the issue then becomes how best to retain a portion of the for sale housing as affordable to low or moderate income households. Condominium conversion is a discretionary process whereby the City can place appropriate conditions to protect the rights of the existing tenants. The City should consider methods to assist the existing residents such as requiring that the owner provide relocation assistance and/or offer first time buyer financing to the existing tenants. The City should consider conditioning the conversion to offer first time buyer financing and reduced sales prices for 20% of the units. The City may wish to participate in a first time buyer bond issue (if available) to assist the existing residents purchase their units.

If The Lakes are not converted, the City would be faced with trying to encourage the preservation and/or assisting with funding the purchase of the development or a portion of the development through a nonprofit. The newness of the development along with the relatively high rental rates would make it expensive to purchase.

Also, as stated previously, comparably priced units are available in the vicinity, thereby indicating that the value of preserving these units as "affordable" is not critical. As this project moves closer to possible conversion, the City will need to reevaluate the cost-benefit of preserving the units at their current affordability rate. The City needs to update the Housing Element again in 1994. The City will evaluate specific programs to address the potential preservation of these units as part of the five year program to be adopted as part of the 1994 update.

HOUSING PROGRAM

The housing program includes many components. Foremost is the establishment of goals, objectives and policies which together provide a foundation upon which detailed housing plans and activities can be developed and implemented.

Policy Framework

State Housing Policies

In 1980 the State of California amended the Government Code by adding Article 10.6 regarding Housing Elements. By enacting this statute, the legislature found that "the availability of housing is of vital statewide importance, and the early attainment of decent housing and a suitable living environment for every California family is a priority of the highest order. The early attainment of this goal requires the cooperative participation of government and the private sector in an effort to expand housing opportunities and accommodate the housing needs of Californians of all economic levels...Local and state governments have a responsibility to use the powers vested in them to facilitate the improvement and development of housing to make adequate provision for the housing needs of all economic segments of the community..."

In 1982 the State published the California Housing Plan entitled "101 Steps to Better Housing." This plan consists of five major themes of housing policy: 1) increasing the supply of new homes, 2) reducing the costs of new homes, 3) locating housing close to jobs, 4) preserving existing housing and neighborhoods, and 5) assisting housing consumers and special population groups.

In 1990, the State issued the California Statewide Housing Plan Update. Briefly stated, the four goals of the statewide plan are: 1) development of new housing, 2) preservation of existing housing and neighborhoods, 3) reduction of housing costs, and 4) improvement of housing conditions for special needs groups.

Regional Housing Policies

The Southern California Association of Governments (SCAG) is responsible for the development of regional housing policies for the six-county Southern California region. Three policy documents prepared by SCAG are the key to the regional program. First, the Regional Housing Needs Assessment (RHNA) provides an analysis of areawide housing conditions and needs as well as a "fair share" distribution mechanism to assign responsibility for meeting a percentage of the area's low- and moderate-income housing needs in each jurisdiction as discussed in the Housing Issues Subsection.

A second policy document is the Areawide Housing Opportunity Plan (AHOP). This regional plan is designed to facilitate the "fair share" goal of the RHNA, to reduce concentrations of lower income households, and to promote greater freedom of choice in housing location for these same households. The AHOP is a special plan enabling local governments, acting cooperatively, to expand housing opportunities on an areawide basis and to allocate the distribution of all housing funds within a region according to a regional/local formula, rather than one which is federally determined.

Third is the Regional Housing Element. This is an advisory document designed to assist individual communities to solve their

housing problems in a coordinated manner. The element focuses on six housing issues: 1) the interrelationships between different participants in the housing development process; 2) the need to produce more housing than is currently being constructed; 3) the amount of housing which is deteriorated and the potential deterioration of neighborhoods throughout the region; 4) the lack of affordable housing for low- and moderate-income households; 5) the discrimination against minorities and other special groups in the housing market; and 6) the spatial separation of jobs and housing opportunities.

The Implementation Plan segment of the Regional Housing Element contains two components - one regional, one local. The regional component sets out goals, overall objectives, and policies related to the six issues identified in the preceding paragraph to guide local government efforts to help resolve the region's housing problems. These policies are summarized below:

Issue 1 - Coordination and Cooperation. Attempt to ensure that the many actors in the housing development process coordinate their efforts in a comprehensive manner to meet regional housing needs. Toward this end, SCAG, in conjunction with local governments, will provide up-to-date housing needs assessments and information on housing programs.

Issue 2 - Quantity. Ensure that a sufficient supply of housing is provided to meet regional needs.

Issue 3 - Quality. Produce quality housing which is energy efficient, easily maintained, available in a variety of types and sizes, and has proper services for its residents. Maintain and conserve the existing housing stock, while preserving its affordability. Rehabilitate deteriorated housing, again preserving its affordability. Revitalize areas with serious deterioration problems.

Issue 4 - Costs and Distribution. Attempt to slow the rising cost of housing. Provide adequate funding for low- and moderate-income housing assistance programs. Provide housing opportunities for lower-income households in all major geographical areas of the region. Discourage further concentrations of lower-income households.

Issue 5 - Equal Access and Opportunity. Offer adequate housing opportunities and choices to all households regardless of race, religion, ethnicity, sex, age, marital status, or household composition.

Issue 6 - Economic Imbalances. Provide a reasonable balance between job and housing opportunities throughout the region.

The local component of the Implementation Plan described a wide range of housing programs, regulatory options, and tax alternatives that localities can use to meet their housing needs.

Orange County Policies

Orange County has also drafted and adopted a housing element which was updated and amended in 1989. This element contains an analysis of County housing needs, a comprehensive problem solving strategy, and a course of action. Policies and program objectives are developed to implement four housing goals relating to: 1) supply and affordability; 2) housing opportunities; 3) housing conservation; and 4) cooperation and coordination. While the primary focus of the element is on the unincorporated areas under County jurisdiction, the element deals with many of the same issues which impact Costa Mesa and provides an additional reference point for the development of a community-based housing program. In addition, these policies and programs are significant because they deal with the overall market of which Costa Mesa is a part.

Housing Strategy Foundation

Prior to the development of a program-specific housing strategy, it is necessary to establish the relative priorities of the identified housing needs and to assess the nature and extent of the City's existing housing programs. The process of prioritizing housing needs involves the identification of target households and neighborhoods as well as a preliminary analysis of the most appropriate housing projects and/or services to meet these needs.

Target Households and Neighborhoods

High construction costs, coupled with the diminishing availability of vacant land, limit the replenishing of housing stock. Therefore, the preservation and upgrading of the City's existing neighborhoods are vital to the maintenance of a viable urban community. In particular, the following neighborhoods have: 1) significant concentrations of low- and moderate-income persons, or blighted and deteriorated housing; and 2) community development needs in terms of housing, public facilities, and public improvements. As such, these neighborhoods and their resident households should be the primary targets of the City's housing strategy.

Currently there are two target neighborhoods identified in the City's Community Development Block Grant Application. One is a Rental Rehabilitation Area, the other is a Special Emphasis Area, both are located in the southwest section of the City as shown in Figure 48.

Existing Housing Programs/Resources

A number of housing-related programs have been initiated and are being implemented in Costa Mesa. Such programs are also being administered by a variety of factors which include the City (primarily the Planning, Building Safety, and Housing and Community

Services Divisions at the staff level, and also the Planning Commission and Housing and Community Development Committee), the Redevelopment Agency, the Orange County Housing Authority, the Orange County Fair Housing Council, the Federal Department of Housing and Urban Development, nonprofit organizations, and private sector developers. Quite often, these programs involve cooperative efforts between many of these participants.

The City relies heavily on the funding provided by the Housing and Community Development Act of 1974, as amended. Since the Act's inception, the City has received approximately \$11.8 million in federal funds from this program, including \$766,000 for the 1989-1990 fiscal year. Although a number of programs are eligible for funding, the City of Costa Mesa has consistently allocated a majority of these funds for direct housing-related programs.

Redevelopment

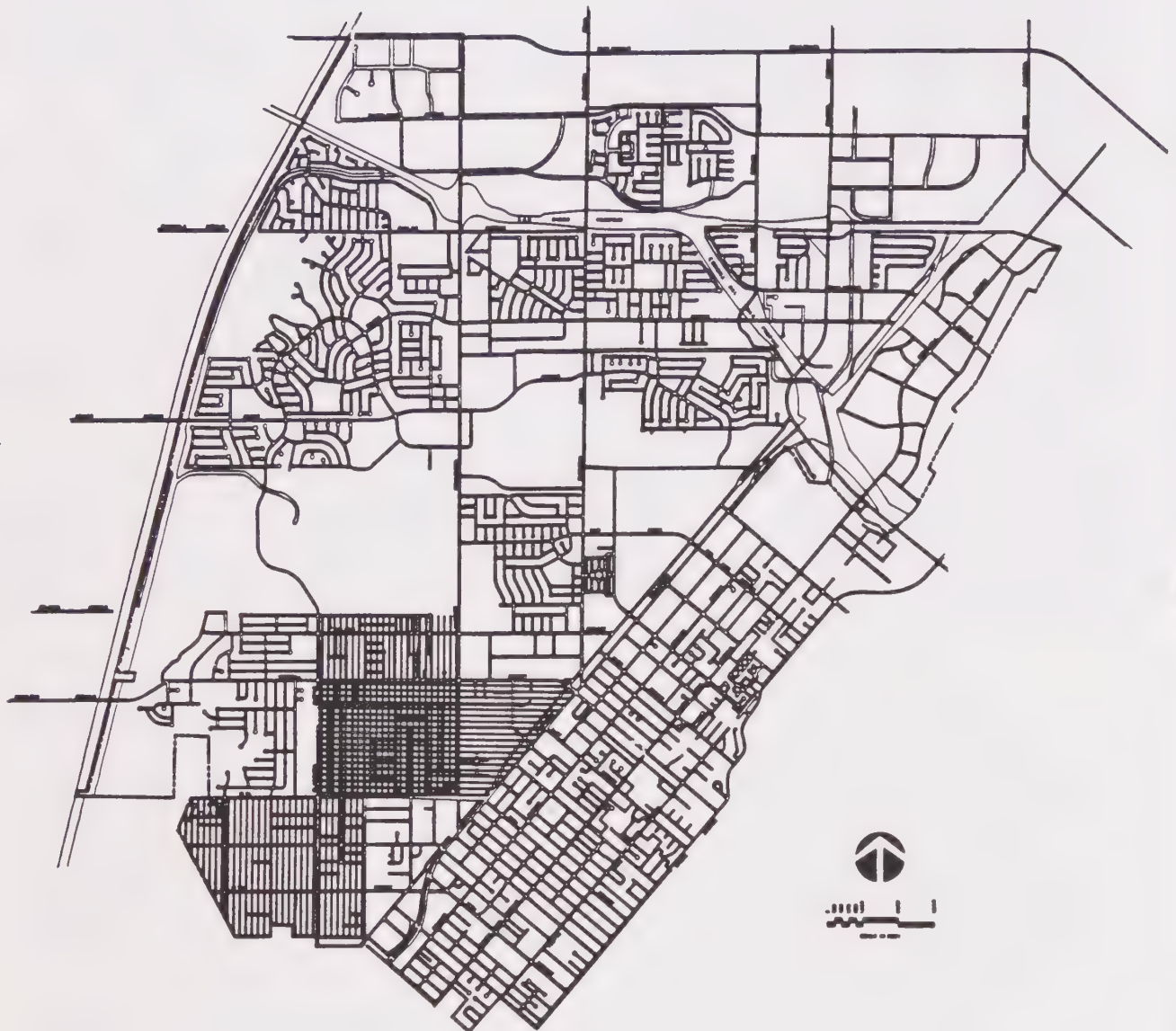
The Redevelopment Agency has participated in the funding of three housing developments located within the Redevelopment Area. These projects are listed below as the Costa Mesa Family Village, Park Center Apartments and Casa Bella. The Agency has been deferring the twenty (20) percent payment into its low and moderate set-aside fund due to outstanding debt repayment as allowed per Section 33334.6 (e) of the California Health and Safety Code. The Agency has recognized the need to eliminate this deferral and is scheduled to formulate its plan by 1996 to eliminate this obligation and to plan for the expenditure of future low and moderate set-aside funds to provide additional affordable housing.

Progress Toward Meeting Objectives

The City last updated the Housing Element in 1988. As part of the Housing Element, the City included a comprehensive housing strategy consisting of goals, policies, programs, and quantified objectives. The next section describes progress the City has made in achieving its objectives. The following affordable housing projects had been constructed in Costa Mesa:

1. 79 units at 825 Center Street - 25% of the units are limited to Fair Market rents according to the HUD Section 8 Program.
2. 62 units at 867 West 19th Street - 25% of the units are limited to Fair Market rents according to the HUD Section 8 Program.
3. 144 units at Fairview Development Community - must be rented on a priority basis first to Fairview employees and clients and secondly to persons working in Costa Mesa and earning less than 80% of the median income.
4. 72 units - Costa Mesa Family Village - 1981 Wallace, 1924 Wallace, 2015 Pomona. 20% of units must be rented to HUD Section 8 certificate holders; the remaining 80% must be rented to persons earning not over 80% of the median income for rents not to exceed 30% of 80% of the median income.
5. 270 units - Bethel Towers - 666 West 19th Street. Maximum incomes \$25,000 for single or \$28,500 for couples (low income). Rents \$161 - 238 per month including utilities.
6. 75 units - Casa Bella - 1844 Park Avenue. Maximum income \$25,000 for single or \$28,500 for a couple. Rents as of August 1990 are \$692 without utilities to \$715 including utilities.

HOUSING PROGRAM TARGET AREAS



||||| RENTAL REHAB. AREA

||||| SPECIAL EMPHASIS AREA

FIGURE 48



The Casa Bella senior citizen apartments and the Costa Mesa Family Village apartments were developed with the assistance of the Redevelopment Agency to provide additional affordable housing opportunities within the city.





The Bethel Towers senior citizen apartments were constructed with Federal Government assistance while the Westbay Apartments were constructed under the density bonus program offered by the city.



7. 36 units - St. John's Manor - 2031 Orange Avenue. Maximum income \$17,200 for single or \$19,650 for a couple (very low income). Rent equals 30% of income.

The last three projects are for senior citizens. The existing projects provide 252 affordable units plus 381 affordable senior citizen units. All except Bethel Towers have been constructed in the 1980's.

Since 1987, the following projects have been completed:

1. 715 units at 2855 Pinecreek Drive - 20% of units are prohibited from having rents greater than 30% of 80% of the median income.
2. 770 units at "The Lakes" (south of Sunflower between Avenue of the Arts and Sakioka) - 20% of units are prohibited from having rents greater than 30% of 80% of the median income.
3. 118 units at Fairview Development Community - must be rented on a priority basis first to Fairview employees and clients and secondly to persons working in Costa Mesa and earning less than 80% of the median income.
4. 160 units at 19th Street and Park Avenue - 25% of the units are limited to persons earning not over 80% of the median income for rents not to exceed 30% of 80% of the median income.

Construction of 138 units at 1850 Whittier Avenue included a requirement that 25% of the units must be rented at Fair Market Rental Rates. In addition, approximately 65 affordable units have been added since 1988 in various projects under the Density Bonus/Incentives program for affordable housing.

In addition to the production of new units, the City has used Community Development Block Grant (CDBG) funds to help 268 low- and moderate-income households rehabilitate their existing housing units since 1980 through low interest loans and grants.

CDBG funds have also been used to subsidize other organizations which provide shelter assistance for the homeless. The City has provided CDBG funds to FISH, Human Options, and the Orange County Interfaith Shelter to assist in their efforts to serve a total of 7,368 area people in fiscal year 1985-86 with temporary shelter or other needs. The City's CDBG funding enabled the Orange County Interfaith Shelter to expand into a 9-unit facility in Costa Mesa that can shelter up to 45 people per night.

Rental assistance payments under the HUD Section 8 Program, which the City contracts with the Orange County Housing Authority to administer, have been provided to City residents.

In 1991, the City donated ten houses (which had been acquired as part of a street widening construction project) to the County of Orange for relocation as affordable housing.

Housing Activity Within The Coastal Zone

The California Government Code now requires that an update to the Housing Element include information on changes to the housing stock within the Coastal Zone. A 16-unit townhouse project on a 2.38 acre parcel, of which the northwestern 0.2 acres is in the Coastal Zone, was approved and constructed in 1986. The City has little residential land in the Coastal Zone and there has been no change to the housing stock since 1988. No units exist in the Coastal Zone and no demolitions have occurred.

Comprehensive Housing Strategy

Section 65583(b) and (c) of the California Government Code stipulate that the Housing Element shall include goals, policies, objectives, and a five-year program of implementation. The comprehensive housing strategy summary of qualified objectives is found in Table 42.

TABLE 42
COMPREHENSIVE HOUSING STRATEGY
SUMMARY OF QUANTIFIED OBJECTIVES

<u>PROGRAM/PROJECT TITLE</u>	<u>88-89</u>	<u>89-90</u>	<u>90-91</u>	<u>91-92</u>	<u>92-93</u>	<u>93-94</u>	<u>TOTAL</u>
<u>Affordable Housing Maintenance</u>							
Shalimar Improvements	-	-	-	88	-	-	88
Housing Rehabilitation	86	86	86	86	86	86	516
Mobilehome Rehabilitation	15	15	15	15	15	15	90
Housing Assistance: Section 8	33	33	33	33	33	33	198
Shared Housing	<u>120</u>	<u>120</u>	<u>120</u>	<u>120</u>	<u>120</u>	<u>120</u>	<u>720</u>
TOTAL	<u>254</u>	<u>254</u>	<u>254</u>	<u>342</u>	<u>254</u>	<u>254</u>	<u>1612</u>
<u>Affordable Housing Production</u>							
Incentive Units	35	70	60	60	60	60	345
Granny Flats and Accessory Apartments	10	10	5	5	5	5	40
SRO Units	--	--	--	250	150	150	550
Mardan Senior Housing	--	--	--	--	50	--	50
Fairview Hospital Project	<u>288</u>	<u>60</u>	<u>--</u>	<u>--</u>	<u>--</u>	<u>--</u>	<u>348</u>
SUB-TOTAL	<u>333</u>	<u>140</u>	<u>65</u>	<u>315</u>	<u>265</u>	<u>215</u>	<u>1333</u>
<u>Market Rate Housing Production</u>							
Apartment Infill	25	25	50	50	25	25	200
Housing Production (Redevelopment and New Development)	<u>500</u>	<u>550</u>	<u>400</u>	<u>300</u>	<u>400</u>	<u>400</u>	<u>2550</u>
SUB-TOTAL	<u>525</u>	<u>575</u>	<u>450</u>	<u>350</u>	<u>425</u>	<u>425</u>	<u>2750</u>
TOTAL NEW HOUSING PRODUCTION	<u>858</u>	<u>715</u>	<u>515</u>	<u>665</u>	<u>690</u>	<u>640</u>	<u>4083</u>

GOALS, OBJECTIVES AND POLICIES

Costa Mesa's housing goals concentrate on six specific aspects of the housing issue. Goals are provided to address each of these issues, and policies are developed to support and implement each goal. The six priority concerns are: (1) preserving existing housing and neighborhoods; (2) preserving affordability; (3) providing adequate sites; (4) insuring accessibility and preventing discrimination; (5) providing adequate housing opportunities for all segments of the community; and (6) encouraging coordination and cooperation. The Goals, Objectives, Policies and Programs of the Costa Mesa General Plan that address housing are as follows:

GOAL VIII: PRESERVATION AND ENHANCEMENT

It is the goal of the City of Costa Mesa to initiate all reasonable efforts to preserve the availability of existing housing opportunities and to conserve as well as enhance the quality of existing dwelling units and residential neighborhoods to ensure full utilization of the City's existing housing resources for as long into the future as is physically and economically feasible.

Objective VIII-A: Establish policies, standards, and procedures to minimize blighting influences and maintain the integrity of stable neighborhoods.

259. Develop standards and/or guidelines for new development with emphasis on site (including minimum site security lighting) and building design to minimize vulnerability to criminal activity.
260. Protect existing stabilized residential neighborhoods, included but not limited to mobile home parks and manufactured home parks, from the encroachment of incompatible or potentially disruptive land uses and/or activities.
261. Actively enforce existing regulations regarding derelict or abandoned vehicles, outdoor storage, and substandard or illegal buildings and establish regulations to abate weed-filled yards when any of the above are deemed to constitute a health, safety or fire hazard.
262. Establish code enforcement as a high priority and provide adequate funding and staffing to support code enforcement programs.
263. Provide incentives (loans, grants) from the Redevelopment Agency or the City to homeowners in existing owner-occupied residences within the Redevelopment Area to use for the rehabilitation of their property.

264. Encourage and support efforts of local homeowner's associations to improve the visual appearance of all residential neighborhoods.
265. Install and upgrade public service facilities (streets, alleys, and utilities) to encourage increased private market investment in declining or deteriorating neighborhoods.
266. Continue existing rehabilitation loan and grant programs for low- and moderate-income homeowners and rental property landlords to encourage full utilization of the City's existing housing stock as long as HCDA funds are available.
267. Encourage the replacement of existing substandard or deteriorated dwelling units which cannot be economically or physically rehabilitated consistent with the then existing zoning code and General Plan.
268. Encourage the private sector to take a role in the assistance to low-income households to rehabilitate substandard or deteriorated units.
269. In the development of public projects, require an analysis of potential displacement of existing residences with an emphasis on minimizing displacement.
270. Encourage the development of housing which fulfills specialized housing needs.
271. Investigate a rehabilitation loan and/or grant program for owner occupied dwelling units for households which exceed CDBG income guidelines.

The following programs have been adopted to realize the attainment of Goal VIII and to implement the above policies.

VIII-A ZONING ENFORCEMENT

PROGRAM/ACTION DESCRIPTION: Enforcement of existing Municipal Code provisions relating to the proper use and development of properties throughout the community. Includes response to and investigation of alleged zoning violations such as illegal uses, derelict or abandoned vehicles, outdoor storage, and illegal structures in residential districts. Program also includes an ongoing component to evaluate the effectiveness of existing regulations to resolve critical issues and to study the need for new regulations to assure proper protection of existing housing resources.

OBJECTIVES/ANTICIPATED RESULTS: Improve quality and prevent deterioration of existing residential neighborhoods.

FUNDING SOURCES: Department/Division budgets provided by the General Fund.

RESPONSIBLE DEPARTMENTS/AGENCIES: Development Services Department and City Attorney.

IMPLEMENTATION SCHEDULE: Ongoing - continuation of an existing program.

VIII-B DEVELOPMENT REVIEW

PROGRAM/ACTION DESCRIPTION: Review of development proposals within or adjacent to existing residential neighborhoods for potential conflicts (intrusive, disruptive or incompatible land uses and/or activities). Review will be initiated at the point in the processing of the proposal (general plan amendment, rezone, conditional use permit, variance, etc.) when sufficient detail to determine project compatibility is available.

OBJECTIVES/ANTICIPATED RESULTS: Protect residential uses from intrusive, incompatible or potentially disruptive land uses and/or activities.

FUNDING SOURCES: Department/Division budgets provided by the General Fund.

RESPONSIBLE DEPARTMENTS/AGENCIES: Development Services Department.

IMPLEMENTATION SCHEDULE: Ongoing - continuation of an existing program.

VIII-C PUBLIC NUISANCE ABATEMENT

PROGRAM/ACTION DESCRIPTION: Abatement of existing uses, activities, buildings, or structures which pose a threat to the public health, safety, and welfare.

OBJECTIVES/ANTICIPATED RESULTS: Protect existing residential uses from disruptive, incompatible, or illegal uses and/or buildings. Improve 88 rental units on Shalimar Drive.

FUNDING SOURCES: Department/Division budgets provided by the General Fund, CDBG for improvements on Shalimar Drive.

RESPONSIBLE DEPARTMENTS/AGENCIES: Development Services Department, Community Development Division, City Attorney, Planning Commission, and City Council. Other department/divisions or agencies may be utilized to evaluate, document, or investigate alleged nuisances on a case-by-case basis.

IMPLEMENTATION SCHEDULE: Ongoing - continuation of an existing program. 1987-91 Shalimar Task Force.

VIII-D HOUSING REHABILITATION

PROGRAM/ACTION DESCRIPTION: Provide technical and financial assistance to all eligible homeowners and residential property owners to rehabilitate existing dwelling units through low interest

loans, or potential loans or grants to owner-occupants of residential property for households which exceed CDBG income guidelines to rehabilitate their existing residential dwelling units.

OBJECTIVES/ANTICIPATED RESULTS: To maintain and preserve the City's housing stock and improve energy efficiency of qualified homes, and to maintain and preserve the City's single-family and condominium housing stock. Objectives for 1988-94 Fiscal Year: rehabilitation of 200 owner-occupied structures; rehabilitation of 60 rental units; and assistance with property improvement of 80 owner-occupied structures and 176 rental units.

FUNDING SOURCES: Community Development Block Grant. Private bank loan commitment (leverage). City as to those owner occupied units for households which exceed CDBG income guidelines in areas outside the Redevelopment Area and to the City or the Redevelopment Agency as to those units located within the Redevelopment Area, provided a new program is adopted.

RESPONSIBLE DEPARTMENTS/AGENCIES: City Manager/Housing and Community Services Division, Development Services Department and Redevelopment Agency.

IMPLEMENTATION SCHEDULE: Ongoing - continuation of an existing program; possible creation of the program described in Policy 257 and 265 and funding of the program in 1991-1992.

VIII-E MOBILE HOME PARK PRESERVATION

PROGRAM/ACTION DESCRIPTION: Provide financial assistance to eligible owner-occupants to rehabilitate existing dwelling units through deferred payment low-interest loans. Amend existing ordinances to require that a Conditional Use Permit be obtained as a prerequisite to the conversion of an existing mobile home park or manufactured housing park. The conditions to the Conditional Use Permit shall include a provision for reasonable relocation assistance when the park is converted to a commercial or industrial use.

OBJECTIVES/ANTICIPATED RESULTS: To maintain and preserve the City's mobile home housing stock.

Summary of Quantified Objectives

<u>Project Title</u>	<u>89-90</u>	<u>90-91</u>	<u>91-92</u>	<u>92-93</u>	<u>93-94</u>	<u>Total</u>
Mobile home Rehabilitation	15	15	15	15	15	75

FUNDING SOURCES: Community Development Block Grant.

RESPONSIBLE DEPARTMENTS/AGENCIES: City Manager/Housing and Community Services Division

IMPLEMENTATION SCHEDULE: Ongoing.

GOAL IX PRESERVING AFFORDABILITY

It is the goal of the City of Costa Mesa to provide its citizens with reasonably priced housing opportunities within the financial capacity of all social and economic segments of the community. Further, the City of Costa Mesa shall make every effort to reduce the costs of home ownership or rent for all existing and future dwelling units constructed within its jurisdiction.

272. Allow and encourage developers to "piggyback" or file concurrent applications (i.e., rezones, tentative tract maps, conditional use permits, variance requests, etc.) if multiple approvals are required, and if consistent with applicable processing requirements.
273. Maintain consistency between all applicable general and specific plans, zoning ordinances, and other development guidelines relating to the development, maintenance, and conversion of new or existing dwelling units in order to reduce unnecessary overlapping regulations to expedite the processing of residential developments.
274. Provide incentives (i.e., density bonus units, fee reductions, exemption from development or processing fees, fast-tracking, etc.) to developers of residential projects who agree to provide the specified percentage of units mandated by State law at a cost affordable to very low- and/or low-income households. Density bonus units may be provided when the bonus units do not allow the project's resulting density to exceed the General Plan designation density limit or for affordable senior citizen projects.
275. Consider financial incentives in lieu of density bonus units if the proposed affordable, nonsenior density exceeds that allowed by the General Plan designation of the property. Require the review of such projects by Planning Commission and City Council.
276. Provide opportunities and develop incentives to encourage developers to employ innovative or alternative construction methods to reduce housing costs and increase housing supply.
277. Exert City influence (to the maximum extent possible) to facilitate the development of new residential units where feasible.
278. Continue to allocate a majority of the City's Community Development Block Grant funds to direct housing-related programs.
279. Support the continuation and expansion of federal housing assistance programs for very low-, low- and moderate-income households.
280. Continue membership in the Orange County Housing Authority to provide housing assistance to low- and moderate-income households.

281. Recognizing the effect of supply and demand on prices for housing and other commodities, encourage development of residential uses on vacant parcels where appropriate.

The following programs have been adopted to realize the attainment of Goal IX and to implement the above policies.

IX-A INCENTIVE FOR AFFORDABLE HOUSING

PROGRAM/ACTION DESCRIPTION: Provide incentives (i.e., density bonuses, fee reduction, etc.) to developers who agree to construct 20 percent low-income units, 10 percent very low-income units, or 50 percent senior citizen affordable units.

OBJECTIVES/ANTICIPATED RESULTS: Program objectives assume increased production of affordable units to be constructed through 1994.

Summary of Quantified Objectives

<u>Project Title</u>	<u>89-90</u>	<u>90-91</u>	<u>91-92</u>	<u>92-93</u>	<u>93-94</u>	<u>Total</u>
Affordable Units	70	60	60	60	60	310

FUNDING SOURCES: Department/Division budgets.

RESPONSIBLE DEPARTMENTS/AGENCIES: Development Services Department.

IMPLEMENTATION SCHEDULE: Ongoing - continuation of an existing program. Ordinance adoption 1991.

IX-B MANUFACTURED HOUSING

PROGRAM/ACTION DESCRIPTION: Study current trends to amend the land use ordinance and zoning districts to include incentives to encourage local developers to employ innovative or alternative construction methods, including manufactured housing.

OBJECTIVES/ANTICIPATED RESULTS: Reduce housing costs and construction time through the use of manufactured housing.

FUNDING SOURCES: Department/Division budgets provided by the General Fund.

RESPONSIBLE DEPARTMENTS/AGENCIES: Development Services Department.

IMPLEMENTATION SCHEDULE: Complete study and prepare ordinance in 1991.

IX-C GRANNY FLATS

PROGRAM/ACTION DESCRIPTION: Provide housing for elderly per California Government Code Section 65852.1.

OBJECTIVES/ANTICIPATED RESULTS: Allow greater utilization of residential land to increase supply of housing for persons age 62 or older. Provide five new units per year.

FUNDING SOURCES: Department/Division budgets provided by the General Fund.

RESPONSIBLE DEPARTMENTS/AGENCIES: Development Services Department.

IMPLEMENTATION SCHEDULE: Ongoing - continuation of an existing program. Ordinance adoption 1991.

IX-D FEDERAL/STATE HOUSING PROGRAMS

PROGRAM/ACTION DESCRIPTION: Provide technical assistance to developers, nonprofit organizations, or other qualified private sector interests in the application and development of projects for Federal and State housing programs/grants. A specific example of previous efforts on this regard relate to a proposal for Section 202 housing sponsored by a local church, St. John the Divine Episcopal Church. 36 units were included in this project.

OBJECTIVES/ANTICIPATED RESULTS: Encourage private sector to utilize available Federal and State housing programs to increase supply of very low-, low- and moderate-income housing opportunities.

FUNDING SOURCES: Department/Division budgets provided by the General Fund, Community Development Block Grant.

RESPONSIBLE DEPARTMENTS/AGENCIES: Development Services Department and City Manager/Housing and Community Development Division.

IMPLEMENTATION SCHEDULE: Ongoing - continuation/expansion of an existing program.

IX-E HOUSING ASSISTANCE

PROGRAM/ACTION DESCRIPTION: Maintain membership in Orange County Housing Authority to qualify City residents for Section 8-Existing housing assistance administered by the Housing Authority. Provide information on the availability of Housing Authority programs to qualified residents.

OBJECTIVES/ANTICIPATED RESULTS: Provide housing assistance to qualified very low-, low- and moderate-income households. As of January 1987, 450 households were receiving Section 8-Existing assistance. During 1986, the number of households receiving assistance increased by 33 households. This level of assistance is expected to be maintained as a continuation of the current Section 8 program or as a somewhat revised program.

Summary of Quantified Objectives

<u>Project Title</u>	<u>89-90</u>	<u>90-91</u>	<u>91-92</u>	<u>92-93</u>	<u>93-94</u>	<u>Total</u>
Section 8	33	33	33	33	33	165

FUNDING SOURCES: No local funds required.

RESPONSIBLE DEPARTMENTS/AGENCIES: Orange County Housing Authority and City Manager/Housing and Community Development Division.

IMPLEMENTATION SCHEDULE: Ongoing - continuation of an existing program.

IX-F SHARED HOUSING

PROGRAM/ACTION DESCRIPTION: Direct people to the Golden Timers Senior Center, or other such organizations for shared housing assistance. The Center has been assisting people, predominantly senior citizens, find roommates to help reduce their individual housing costs.

OBJECTIVES/ANTICIPATED RESULTS: Allows individuals to share housing to reduce individual costs to an affordable level for senior citizens. The Center averages 10 to 12 matches per month.

Summary of Quantified Objectives

<u>Project Title</u>	<u>89-90</u>	<u>90-91</u>	<u>91-92</u>	<u>92-93</u>	<u>93-94</u>	<u>Total</u>
Shared	120	120	120	120	120	600

FUNDING SOURCES: No City funds required.

RESPONSIBLE DEPARTMENTS/AGENCIES: City Manager/Housing and Community Development Division.

IMPLEMENTATION SCHEDULE: Ongoing - continuation of an existing program.

GOAL X: PROVISION OF ADEQUATE SITES

It is the goal of the City of Costa Mesa to provide adequate, suitable sites for residential use and development of a range of housing that varies sufficiently in terms of cost, design, size, location, and tenure to meet the housing needs of all segments of the community at a level no greater than that which can be supported by the infrastructure.

282. Establish regulatory policies and controls which will encourage well designed planned residential developments and provide adequate open space, recreational facilities, off-street parking, circulation, and environmental amenities within housing project areas - without compromising the affordability of newly constructed residential units.
283. Establish regulatory policies and controls which will encourage the development of single-family detached housing types (i.e., small lot or zero-lot line subdivisions) which are affordable to first-time homebuyers.
284. Ensure that residential densities can be supported by the infrastructure and that high density residential areas are not permitted in areas which cause incompatibility with existing single-family areas.
285. Encourage the conversion of existing marginal or vacant commercial and/or industrial land to residential, where

feasible and consistent with environmental conditions suitable for new residential development. This does not preclude the initiation of such actions by the City.

286. Provide opportunities for the development of well planned and designed projects which, through vertical or horizontal integration, provide for the development of compatible residential, commercial, industrial, institutional, or public uses within a single project or neighborhood.
287. Cooperate with large employers, the Chamber of Commerce, and major commercial and industrial developers to identify and implement programs to balance employment growth with the ability to provide housing opportunities affordable to the incomes of the newly created job opportunities.
288. Continue to allocate portions of the City's Community Development Block Grant funds for the acquisition and write-down of land costs to increase the supply of low-and moderate-income housing opportunities.
289. Consider the effects of new employment, particularly in relation to housing demands, when new commercial or industrial development is proposed.
290. Consider the potential impact on housing opportunities and existing residential neighborhoods when reviewing rezone petitions affecting residential properties.
291. Continue to allocate portions of the City's CDBG funds to subrecipients who provide shelter for the homeless.
292. Identify potential sites for residential development and emergency shelters for the homeless.

The following programs have been adopted to realize the attainment of GOAL X and to implement the above policies.

X-A ZONING ORDINANCE REVIEW

PROGRAM/ACTION DESCRIPTION: Include in the evaluation of proposed amendments to Municipal Code provisions affecting residential construction and development an assessment of the impacts of the proposed regulations and/or development standards on housing costs.

OBJECTIVES/ANTICIPATED RESULTS: To ensure that newly adopted residential development standards and/or processing requirements do not adversely impact housing costs.

FUNDING SOURCES: Department/Division budgets provided by the General Fund.

RESPONSIBLE DEPARTMENTS/AGENCIES: Development Services Department.

IMPLEMENTATION SCHEDULE: Ongoing - 1988-1989 revision of low density residential criteria and setback and coverage criteria, 1990-1991 ordinance clean-up.

X-A (A) OPPORTUNITIES FOR FIRST-TIME HOMEBUYERS

PROGRAM/ACTION DESCRIPTION: Develop residential zoning districts and development standards which encourage the development of single-family housing products (i.e., small lot or zero-lot line subdivisions) which are affordable to first-time homebuyers.

OBJECTIVES/ANTICIPATED RESULTS: To increase ownership housing opportunities for prospective first-time homebuyers.

FUNDING SOURCES: Department/Division budgets provided by the General Fund.

RESPONSIBLE DEPARTMENTS/AGENCIES: Development Services Department.

IMPLEMENTATION SCHEDULE: Ongoing - Planned Development Residential - Low and Medium Density zones amended to include standards for small lot subdivision in 1989. Review small lot single-family standards in 1992.

X-B LAND ACQUISITION

PROGRAM/ACTION DESCRIPTION: Acquisition of privately owned land to assemble a site(s) suitable for the development of new housing for very low-, low- and/or moderate-income seniors, handicapped persons, or families. Specific components include acquisition, assemblage of parcels into site(s) large enough to permit development of new residential units, relocation assistance to displaced tenants, clearance of structures acquired and site preparation, and sale of site(s) to private developer utilizing write-down method. CDBG funds were used in conjunction with the Lincoln Properties Project at Park Center which will produce 160 apartments of which 40 will be at affordable rates. Section 108 loan against future CDBG funding is also available.

OBJECTIVES/ANTICIPATED RESULTS: Acquire a site(s) in order to construct additional very low-, low- and moderate-income residential units. Construct 50 senior citizen units on the Mardan site.

FUNDING SOURCES: Community Development Block Grant and Section 108 loan against future CDBG funds.

RESPONSIBLE DEPARTMENTS/AGENCIES: City Manager/Housing and Community Development Division.

IMPLEMENTATION SCHEDULE: Ongoing.

X-C MIXED USE DEVELOPMENTS

PROGRAM/ACTION DESCRIPTION: Utilize the City's existing Planned Development Zones to encourage private market development of mixed use projects to integrate compatible residential, commercial, industrial, and institutional uses into a single development. Review existing development policies and regulations to provide additional incentives to further encourage development of mixed use

projects and to determine the feasibility of such projects within all density/intensity ranges. This program was employed to encourage the 770-unit project in The Lakes mixed use project and could be used in the development of other large parcel developments and at other density levels.

OBJECTIVES/ANTICIPATED RESULTS: Integrate employment and housing opportunities into a unified development or single building.

FUNDING SOURCES: Department/Division budgets provided by the General Fund.

RESPONSIBLE DEPARTMENTS/AGENCIES: Development Services Division.

IMPLEMENTATION SCHEDULE: Ongoing - include Urban Center Mixed Use and Business Park Mixed Use as land use designations in 1990 General Plan.

X-D HOUSING SUPPLY IMPACT ASSESSMENT

PROGRAM/ACTION DESCRIPTION: Require an analysis of the potential impacts of major employment-generating development on the local housing market. Assessment may be included in project EIR or other review procedure/process.

OBJECTIVES/ANTICIPATED RESULTS: Determine potential impact of major employment-generating developments on local housing market prior to approval of proposed development, while limiting new permanent employment-generating land uses where housing impacts are determined to be unacceptable.

FUNDING SOURCES: Department/Division budgets provided by the General Fund.

RESPONSIBLE DEPARTMENT/AGENCIES: Development Services Division.

IMPLEMENTATION SCHEDULE: Ongoing - continuation of existing policy - review housings/jobs ratio in 1990 General Plan EIR.

X-E REZONE REVIEW

PROGRAM/ACTION DESCRIPTION: Include in the evaluation of rezone requests involving residential properties an analysis of the potential impacts of the rezone on the inventory of developable residential land and the City's existing and future housing stock.

OBJECTIVES/ANTICIPATED RESULTS: Determine impact of rezone requests on the City's existing and future housing supply.

FUNDING SOURCES: Department/Division budgets provided by the General Fund.

RESPONSIBLE DEPARTMENTS/AGENCIES: Development Services Division.

IMPLEMENTATION SCHEDULE: Ongoing - continuation of existing policy.

X-F DEVELOPMENT MONITORING PROGRAM

PROGRAM/ACTION DESCRIPTION: Continue program to monitor the extent of residential, commercial, and industrial development on an annual basis. Sufficient detail should be provided to monitor employment growth and housing production.

OBJECTIVES/ANTICIPATED RESULTS: Maintain balance of employment growth and housing production.

FUNDING SOURCES: Department/Division budgets.

RESPONSIBLE DEPARTMENTS/AGENCIES: Development Services Division.

IMPLEMENTATION SCHEDULE: Ongoing - continuation of existing policy.

X-G CDBG FUNDING FOR HOMELESS SHELTER

PROGRAM/ACTION DESCRIPTION: Allocate a portion of the City's CDBG funds to sub-recipients who provide shelter for the homeless.

OBJECTIVES/ANTICIPATED RESULTS: Provide homeless shelter support and expansion through existing service agencies.

FUNDING SOURCES: Community Development Block Grant.

RESPONSIBLE DEPARTMENTS/AGENCIES: City Manager/Housing and Community Development Division.

IMPLEMENTATION SCHEDULE: Ongoing.

X-H ADEQUATE SITES

PROGRAM/ACTION DESCRIPTION: Keep an updated inventory of vacant sites. Provide this inventory to developers and service agencies interested in producing affordable housing and/or emergency shelters for the homeless.

OBJECTIVES/ANTICIPATED RESULTS: Provide information on available vacant land.

FUNDING SOURCES: Department/Division budgets provided by the General Fund.

RESPONSIBLE DEPARTMENTS/AGENCIES: Development Services Division.

IMPLEMENTATION SCHEDULE: Ongoing.

X-I HOMELESS SHELTER ORDINANCE

PROGRAM/ACTION DESCRIPTION: Amend the Municipal Code to specifically allow homeless shelters in appropriate areas subject to standard conditions.

OBJECTIVES/ANTICIPATED RESULTS: Facilitate the development of homeless shelters by standardizing the City's permitting process.

FUNDING SOURCES: Department/Division budgets.

RESPONSIBLE DEPARTMENTS/AGENCIES: Development Services Division.

IMPLEMENTATION SCHEDULE: Prepare ordinance 1992.

X-J SINGLE ROOM OCCUPANCY HOTELS

PROGRAM/ACTION DESCRIPTION: Provide basic, safe housing for low income individuals in proximity to transit and service jobs.

OBJECTIVES/ANTICIPATED RESULTS: Facilitate the development of SRO hotels by allowing such development in commercial areas. Convert existing hotels or construct new SRO hotels to house the working poor, homeless, senior citizens, students and others in need of basic, safe housing.

FUNDING SOURCES: Department/Division budgets and possible CDBG funding.

RESPONSIBLE DEPARTMENTS/AGENCIES: Development Services Division.

IMPLEMENTATION SCHEDULE: Prepare implementing policy/ordinance 1991.

GOAL XI: ACCESSIBILITY

It is the goal of the City of Costa Mesa to ensure that all existing and future housing opportunities are open and available to all social and economic segments of the community without discrimination on the basis of race, color, religion, sex, national origin or ancestry, marital status, age, household composition or size, or any other arbitrary factors.

293. Support the intent and spirit of equal housing opportunities as expressed in the Civil Rights Act of 1886, Title VII of the 1968 Civil Rights Act, California Rumford Fair Housing Act, and the California Unruh Civil Rights Act.
294. Continue to support efforts to protect equal housing opportunities.
295. Provide density bonuses or other incentives (exemption from development or processing fees, participation in costs of off-site improvements and/or land acquisition, or exemption from certain development standards) to developers of residential projects which provide a specified percentage of the units meeting specialized housing needs. Density bonuses may be provided when the bonus units do not allow the project's resulting density to exceed the General Plan designation density limit.

296. Provide financial incentives in lieu of density bonus units in residential projects containing units for specialized housing needs if the proposed density exceeds that allowed by the General Plan designation of the property. Require the review of such projects by Planning Commission and City Council.
297. Develop programs and policies to address the housing needs of senior citizens.

The following programs have been adopted to realize the attainment of Goal XI and to implement the above policies.

XI-A FAIR HOUSING ASSISTANCE

PROGRAM/ACTION DESCRIPTION: Obtain services from the Fair Housing Council of Orange County or similar agencies.

OBJECTIVES/ANTICIPATED RESULTS: Provide specialized housing services to the citizens of Costa Mesa to ensure equal access to available housing opportunities.

FUNDING SOURCES: Community Development Block Grant.

RESPONSIBLE DEPARTMENTS/AGENCIES: City Manager/Housing and Community Development Division and Fair Housing Council of Orange County or similar agencies.

IMPLEMENTATION SCHEDULE: Ongoing - continuation of existing policy.

XI-B INCENTIVES FOR SPECIALIZED HOUSING NEEDS

PROGRAM/ACTION DESCRIPTION: Investigate incentives which can be implemented to encourage the development of housing opportunities for specialized housing needs. The Redevelopment Plan for Project Area No. 1 contains a density bonus incentive to encourage such housing in new residential developments.

OBJECTIVES/ANTICIPATED RESULTS: Increase supply of housing opportunities for handicapped or disabled persons.

FUNDING SOURCES: Department/Division budgets provided by the General Fund.

RESPONSIBLE DEPARTMENTS/AGENCIES: Development Services Department.

IMPLEMENTATION SCHEDULE: Complete study and prepare ordinance in 1992.

GOAL XII: HOUSING OPPORTUNITIES

It is the goal of the City of Costa Mesa to provide and maintain an adequate range of housing accommodations which serve all social and economic segments of the community and provide a reasonable range

of choice in terms in unit, type, design, size, price, location, and tenure, with particular emphasis and encouragement for low density, owner-occupied residences.

298. Investigate all reasonable and fiscally prudent means to provide opportunities for all segments of the City's population to obtain a decent home in a suitable living environment within all areas of Costa Mesa.
299. Encourage and support the construction of residential developments which will meet the needs of families and individuals with specialized housing requirements.
300. Establish a residential development monitoring program to assess the changes in Costa Mesa's housing stock over time and to evaluate the effectiveness of the City's housing program.
301. Encourage additional specialized amenities in excess of minimum State requirements to improve accessibility to and within projects with handicap units.
302. Review existing neighborhoods which are zoned R2 but developed largely with single-family residences and redesignate these areas as Low Density Residential to encourage preservation of owner-occupied dwelling units where feasible.

The following programs have been adopted to realize the attainment of Goal XII and to implement the above policies.

XII-A CONDOMINIUM CONVERSIONS

PROGRAM/ACTION DESCRIPTION: Administration of existing Municipal Code provisions regulating the conversion of existing apartments to condominiums, community apartments, stock cooperatives, or other forms of ownership.

OBJECTIVES/ANTICIPATED RESULTS: Maintain supply of rental units in an identified housing shortage.

FUNDING SOURCES: Department/Division budgets provided by the General Fund.

RESPONSIBLE DEPARTMENTS/AGENCIES: Development Services Department.

IMPLEMENTATION SCHEDULE: Ongoing - continuation of existing policy.

XII-B MOBILE HOME PARK CONVERSION GUIDELINES

PROGRAM/ACTION DESCRIPTION: State Planning and Zoning Law Sections 65863.7 - 65863.8 requires subdividers and managers of existing mobile home parks to prepare a report on the impact of the conversion on displaced tenants. This program will result in the

adoption of detailed administrative guidelines identifying the specific content and format of all such reports prepared for conversion requests in the City of Costa Mesa. These guidelines shall be drafted to allow the imposition of reasonable conditions to mitigate any adverse impacts of the conversion on existing park tenants. Specific mechanisms to allow full public debate and consideration of the impact report and conversion request shall also be identified in the guidelines.

OBJECTIVES/ANTICIPATED RESULTS: Protect existing supply of mobile homes and ensure that existing park tenants are not adversely impacted by conversion of existing mobile home parks.

FUNDING SOURCES: Department/Division budgets provided by the General Fund.

RESPONSIBLE DEPARTMENTS/AGENCIES: Development Services Department.

IMPLEMENTATION SCHEDULE: Prepare draft guidelines 1991-92.

XII-C HOUSING PROGRAM EVALUATION

PROGRAM/ACTION DESCRIPTION: Conduct annual reviews and updates of Housing Subelement sections relating to residential growth and development trends, population projections, vacancy rates, and housing costs. Conduct thorough evaluation of all housing programs at least every five years.

OBJECTIVES/ANTICIPATED RESULTS: Evaluate the effectiveness of the housing program in accomplishing housing objectives and effectuating the goals and policies of the Housing Subelement.

FUNDING SOURCES: Department/Division budgets provided by the General Fund.

RESPONSIBLE DEPARTMENTS/AGENCIES: Development Services Department.

IMPLEMENTATION SCHEDULE: Ongoing - continuation of existing policy annual review.

GOAL XIII: COORDINATION AND COOPERATION

It is the goal of the City of Costa Mesa to coordinate local housing efforts with appropriate federal, state, regional, and local governments and/or agencies and to cooperate in the implementation of intergovernmental housing programs to ensure maximum effectiveness in solving local and regional housing problems.

303. Investigate alternative intergovernmental arrangements and program options to deal with areawide housing issues and problems.
304. Develop a cooperative program with surrounding cities to work toward a balance of housing and employment opportunities within the region.

305. Consider pooling a portion of the City's Community Development Block Grant funds with surrounding jurisdictions to produce affordable housing, including the single room occupancy concept.

The following programs have been adopted to realize the attainment of Goal XIII and to implement the above policy.

XIII-A REVIEW OF HOUSING ELEMENTS

PROGRAM/ACTION DESCRIPTION: Conduct a thorough review of surrounding cities of Huntington Beach, Fountain Valley, Santa Ana, Irvine, and Newport Beach and the County of Orange to identify common housing concerns and to provide foundation for the possible joint resolution of problems of mutual interest.

OBJECTIVES/ANTICIPATED RESULTS: Coordinate housing programs to deal with housing issues on an areawide scale.

FUNDING SOURCES: Department/Division budgets provided by the General Fund.

RESPONSIBLE DEPARTMENTS/AGENCIES: Development Services Department.

IMPLEMENTATION SCHEDULE: Review 1990-1991.

XIII-B COOPERATIVE HOUSING PROGRAMS

PROGRAM/ACTION DESCRIPTION: Investigate alternative mechanisms (areawide housing councils, joint powers agreements, and other arrangements) and program options to deal with areawide housing issues and problems.

OBJECTIVES/ANTICIPATED RESULTS: Develop cooperative arrangements with other localities, agencies, or organizations to resolve housing issues and problems which extend beyond the jurisdictional boundaries and implementation capabilities of the City of Costa Mesa.

FUNDING SOURCES: Department/Division budgets provided by the General Fund.

RESPONSIBLE DEPARTMENTS/AGENCIES: Development Services Department.

IMPLEMENTATION SCHEDULE: Complete study and pursue joint agreements in 1993.

XIII-C FAIRVIEW HOSPITAL HOUSING PROJECT

PROGRAM/ACTION DESCRIPTION: Approximately 60 acres of underutilized land on the grounds of Fairview State Hospital have been leased to a private developer to construct 572 units for hospital employees and transitional clients. Unfilled units will be made available to residents of Costa Mesa whose income is less than 80 percent of the Orange County median income and, if vacancies still

exist, will be made available to other persons employed in Costa Mesa. Subsequent units will be available at below market rates because of the elimination of land acquisition costs from the rental schedule.

OBJECTIVES/ANTICIPATED RESULTS: 144 units were constructed in 1985-86 as Phase I. Phases IIA, IIB, and IIC, totalling 406 units, are nearing completion. Rent schedules submitted at the time of approval indicate that all units would be affordable to moderate-income households. Of the total units, approximately 10 percent would be affordable to low-income households.

FUNDING SOURCES: Department/Division budgets provided by the General Fund.

RESPONSIBLE DEPARTMENTS/AGENCIES: Development Services Department, City Manager/Housing and Community Development Division.

IMPLEMENTATION SCHEDULE: Ongoing - continuation of existing program through project completion.

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5. Comprehensive Housing Strategy: City of Costa Mesa General Plan (City of Costa Mesa) 1981
6. Community Development Block Grant Application (City of Costa Mesa)
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8. Construction Industry Research Board monthly report
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10. California Real Estate Indicators (UCLA) various issues
11. Anaheim-Santa Ana PMSA Housing Vacancy Survey (Federal Home Loan Bank Board) 1986
12. The Los Angeles Times various dates
13. The Orange County Register various dates
14. Report of Findings from Community Opinion Survey prepared by Opinion Research of California, November 1988.
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Public Facilities and Services

PUBLIC FACILITIES AND SERVICES

Public utilities and services essential to the orderly development and functioning of the City are provided by the City and other public agencies. Development cannot take place and normal activities cannot be carried out without sufficient utility services, public facilities and services, and other infrastructure. This subelement will examine the current status of these facilities and their ability to accommodate the growth anticipated by this General Plan.

This subelement addresses these utilities: energy, water and wastewater; and these services: City administration, fire protection, police, disaster preparedness, education and child care. This subelement partially fulfills the requirement for a Safety Element and Circulation Element. Other Safety Element considerations may be found in the Geology Subelement of the Environmental Resources/Management Element, and other Circulation Element considerations may be found in the Transportation Subelement of the Community Development/Management Element.

ENERGY

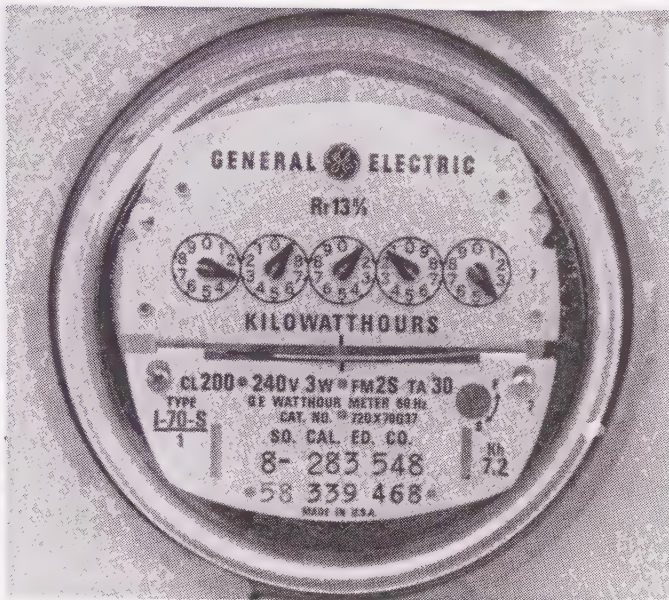
Electricity

Electricity in Costa Mesa is provided by the Southern California Edison Company. The Edison Company has a service area of 50,000 square miles with a population of over 10 million. Costa Mesa constitutes just less than one percent of the population served by Edison.

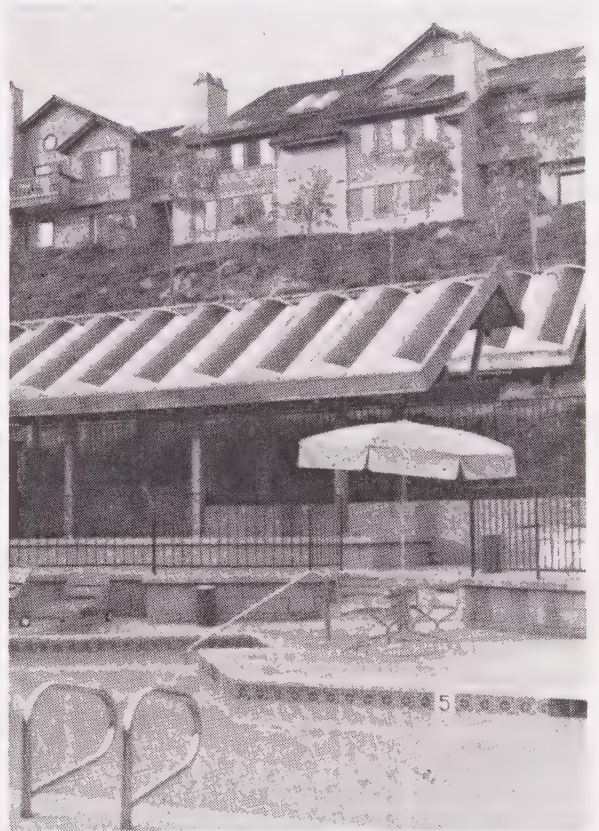
Edison's Huntington Beach Generating Station (located approximately 1-1/2 miles west of Costa Mesa) has a generating capacity of 1,003 MW and provides somewhat in excess of 10 percent of the electrical energy consumed in Orange County. The facility consists of one 225 MW and three 215 MW generators which can be fueled by oil or natural gas, and one 133 MW gas turbine generator.

Southern California Edison has indicated that the future growth of Costa Mesa as anticipated in this General Plan is within the parameters of the overall projected load growth which they are planning to meet.

Future sources of fuel for the generation of electrical power are difficult to predict. There are many factors which may affect the types of fuel available, including reliability and price of imported oil and gas; discovery and delivery of fuels from new domestic sources, such as offshore exploration and drilling, delivery systems for Alaskan natural gas, and policies regarding distribution of oil and gas within the United States; policies regarding delivery, processing, and distribution of liquified natural gas (LNG) and liquid petroleum gas (LPG); policies affecting mining and processing of coal and oil shale; environmental restrictions on the use of petroleum fuels; pricing policies for petroleum fuels; and approval or disapproval of new or expanded nuclear power plants. These are State and Federal level decisions and not within the jurisdiction of the City of Costa Mesa.



Energy consumption can be reduced significantly through proper site and building design and use of active solar energy systems.



Nearly half the energy consumed in California is for transportation.



Natural Gas

The Southern California Gas Company supplies natural gas to 534 cities which encompasses over 23,000 square miles of Southern California, including Costa Mesa. Ninety-five percent (95%) of the gas meters in the City are residential. As with fuel sources for electrical generation, the future of natural gas sources is uncertain.

Southern California Gas Company has indicated their ability to provide gas service to meet future growth within Costa Mesa as anticipated by the General Plan. All new gas service contracts would be in accordance with the company's policies and extension rules on file with the California Public Utilities Commission at the time contractual arrangements are made.

Vehicular Fuels

Because motor vehicles are powered almost exclusively by petroleum fuels derived from oil, supplies are directly affected by fluctuations in the international oil market as well as refinement and distribution facilities and policies within the United States. Supplies may be increased with production of new oil from within the country, including the outer continental shelf, and with development of new foreign sources. Foreign supplies, however, are subject to interruption for political and other reasons. Another possibility for increase in supplies of vehicular fuels is reduction in volumes of petroleum fuels necessary to supply energy to stationary users, through wider use of alternate energy technologies.

ENERGY CONSERVATION

There are two basic approaches to mitigation of the energy problem: conservation of existing energy supplies, and development of new or additional supplies. Conservation can be accomplished by simply reducing the use of energy-consuming items, or by physically modifying existing facilities and appliances to allow them to operate more efficiently.

Energy Shortage Contingency Plan

The California Energy Resources and Development Commission (Energy Commission) has prepared an Energy Shortage Contingency Plan (Plan) which provides for monitoring of energy supply and demand and includes voluntary and mandatory conservation programs to be implemented in the event of a shortage. The Plan provides estimates of the effectiveness of each of the programs in terms of savings of various fuel types. Table 43 (summarized from the Plan) indicates the percentage of annual energy savings for several conservation measures involving reductions in the use of existing facilities and appliances.

The figures shown in Table 43 represent the impacts of adopting certain measures on a Statewide basis, and reflect impact on total energy use in the State. The effect of a specific action on an individual building is likely to be greater. For instance, a reduction in lighting levels could be significant in an individual

office building, but its Statewide impact on electrical consumption would be diluted because of the many facilities which use larger amounts of electricity for purposes other than lighting.

The measures proposed in the Plan are emergency measures, to be implemented in the event of a crisis-level fuel shortage. The degree of restriction, and determination as to whether compliance will be voluntary or mandatory, depends upon the severity of the situation. It is recognized that some of the measures will have adverse impacts in other areas. This is especially true of the transportation restrictions, which will have economic impacts as a result of the reduction of mobility.

Similar curtailment powers are held by the Federal government in the event of a nationwide crisis. As energy consumption is reduced, or held at a constant level rather than increased, shortages are likely to be less serious and emergency curtailment actions are less likely to be necessary.

The Energy Commission continues to study the possibilities and effects of conservation efforts in both existing and new buildings. According to the 1986 Conservation Report, the California Energy Commission forecasts an electrical energy savings of 18 percent for peak loads and 12 percent overall and a natural gas savings of 18 percent based on existing programs through 1997.

The California Energy Commission first adopted energy conservation standards for new construction in 1978. These standards, contained in Title 24 of the California Administrative Code, contain specifications relating to insulation, glazing, heating and cooling systems, water heaters, swimming pool heaters, and several other subjects. Specific design provisions differ throughout the State depending upon local temperature conditions. Because of the warm climate, some of the insulation and heating standards are significantly less stringent in Costa Mesa.

Since 1978, the California Energy Commission has established revised energy efficiency standards for new commercial buildings. "Second generation" standards were adopted in 1984 for offices and in 1985 for retail and wholesale buildings while work continues on to revise standards for other commercial building types.

The California Energy Commission revised the standards for new residential buildings in 1981. These "second generation" standards were then delayed until 1983 when AB 163 was passed which provided options for complying with the standards.

Although the energy regulations establish a uniform standard of energy efficiency, they do not insure that all available conservation features are incorporated into building design. Additional measures may further reduce heating, cooling, and lighting loads and overall energy consumption. While it is not suggested that all possible conservation features be included in every development, there are often a number of economically feasible measures that may result in savings in excess of the minimum required by Title 24.

TABLE 43
ANNUAL ENERGY SAVINGS (%)
FOR MEASURES CONTAINED IN THE CALIFORNIA ENERGY COMMISSION'S ENERGY SHORTAGE CONTINGENCY PLAN

Sector	Restriction	Natural Gas	LPG	Fuel Oil	Direct	Electricity		Gasoline
						Fuel Oil for Electricity	Natural Gas for Electricity	
Residential	Reduce hot water temperature and use (1)	2.4	2.6	-	0.5	0.9	0.5	-
	Restrict light and appliance use	-	-	-	3.4	6.1	3.1	-
	Reduce heat from:							
	70° to 65°	11.3(2)	12.0(2)	1.5	1.4	2.6	1.3	-
	70° to 60°	17.0(2)	18.0(2)	2.3	2.1	3.8	1.9	-
	70° to 50°	20.6(2)	21.0(2)	2.7	2.6	4.7	2.2	-
Commercial	Increase cooling level from 75° to 80°	-	-	-	0.7	1.3	0.6	-
	Eliminate cooling	-	-	-	1.9	3.5	1.9	-
	Reduce hot water temperature and use	0.1	-	-	0.6	1.1	0.5	-
	Restrict lighting:							
	General	-	-	-	2.0	3.6	1.8	-
	Advertising Displays	-	-	-	0.1	0.2	0.1	-
	Streets	-	-	-	0.2	0.4	0.2	-
	Reduce heat (3) from:							
	70° to 65°	5.1	-	0.5	0.4	0.8	0.4	-
	70° to 60°	7.6	-	0.7	0.6	1.2	0.6	-
	70° to 50°	9.2	-	0.9	0.8	1.4	0.7	-
	Increase cooling level (3) from							
Industrial	75° to 80°	0.6	-	-	0.7	1.3	0.6	-
	Eliminate cooling	1.5	-	-	2.0	3.5	1.8	-
	Restrict lighting	-	-	-	0.5	0.9	0.5	-
	Reduce heat from:							
	70° to 65°	0.7	-	0.8	-	-	-	-
	70° to 60°	1.1	-	1.3	-	-	-	-
	70° to 50°	1.3	-	1.6	-	-	-	-
	Increase cooling level from 75° to 80°	-	-	-	0.5	0.9	0.5	-
Transportation	Eliminate cooling	-	-	-	1.5	2.7	1.4	-
	Restrict parking and street use	-	-	-	-	-	-	6
	Restrict vehicle use:							
	Carless Sundays	-	-	-	-	-	-	12.5
	Drive only 6 days/week	-	-	-	-	-	-	10.7
	Drive every other day	-	-	-	-	-	-	33.0

(1) Temperature reduced from 140° to 105° F.

(2) Reduction of heating temperatures will reduce the use of fuels for this purpose; however, it may be accompanied by increased use of electric heaters and electric blankets. This could result in a corresponding increase in electrical consumption of 0.3% to 2.4% when replacing heaters fueled by natural gas, and 0.05% to 0.1% when replacing heaters fueled by LPG or fuel oil.

(3) Assumed exemption of essential health services.

Overhead Utility Lines

Many overhead electric and telephone lines still exist along City streets and alleys and in backyard easements. New on-site utilities are required to be installed underground to the nearest pole, at which point they join the overhead distribution system. Existing overhead electric and telephone lines are gradually being replaced by underground facilities. The City has determined priorities for these projects through the establishment of Underground Utility Districts.

Off-site utilities are gradually being undergrounded as funds become available from the utility companies. The Edison Company has a specific fund for undergrounding projects. Monies are accumulated into the fund based on the number of meters in the City. Project location priorities are determined by the City and undergrounding is carried out by the Edison Company with designated funds and by the telephone company out of general operating funds.

Costa Mesa has established seventeen Underground Utility Districts as identified in Table 44. Lines along streets not designated as Underground Utility Districts are sometimes placed underground in conjunction with major street widening projects, such as Fairview Road. Although 66 kv transmission lines are difficult to place underground, the technology exists. The first such project in Orange County was included in the assessment district for the extension of South Coast Drive between Harbor Boulevard and Fairview Road, and involved lines running north from the San Diego Freeway to Sunflower Avenue - a distance of nearly 2,400 feet.

Alternate Energy Sources

As mentioned previously, solutions to the energy problem can be gained both through conservation and through development of additional sources of energy. Energy suppliers are continuously searching for new and expanded sources of conventional fuels such as oil, gas, and coal. More recently developed fuels, such as nuclear and geothermal, make up a small share of the nation's energy supplies. Solar energy is the viable alternate energy source for the City of Costa Mesa.

Solar energy can be harnessed in two ways: for conversion to electricity and for direct use to heat water or building interiors. Conversion of sunlight to electricity - through use of solar (photovoltaic) cells or heating of fluids to drive turbine generators - is a high-cost technology, although several demonstration projects are built and improved cost efficiency is anticipated.

Direct use of solar energy is divided into two areas - passive and active. Passive solar energy refers to the design of buildings to take maximum advantage of the sun for heating and cooling through appropriate use of windows, overhangs and other shading devices, building materials, and landscaping. Active solar energy involves the use of solar collectors and related plumbing and mechanical facilities to heat water, building interiors, or swimming pools.

TABLE 44

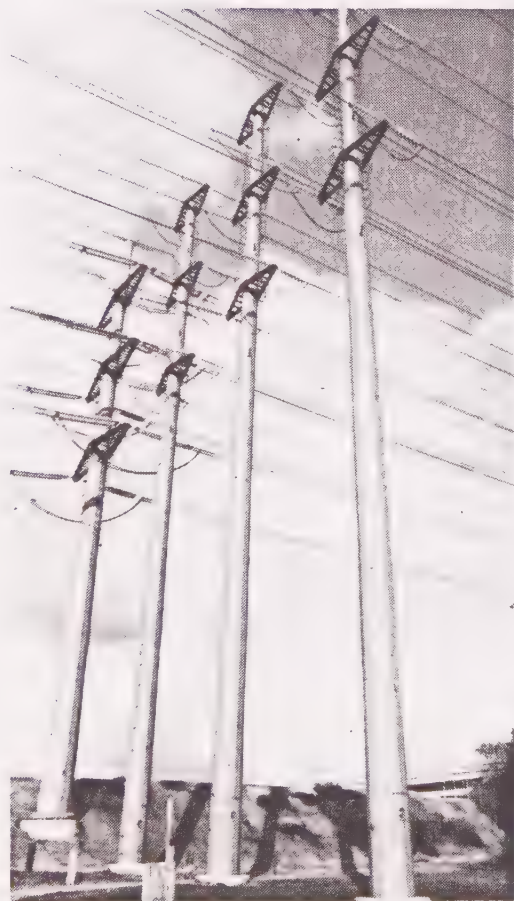
UNDERGROUND UTILITY DISTRICTS

<u>NO.</u>	<u>DISTRICT LOCATION</u>	
1	Victoria Street	- Charle Drive to College Drive
2	Placentia Avenue and Estancia Drive	- Wilson Street to Adams Avenue
4	Newport Freeway/ Frontage Road	- Bristol Street to Mesa Drive
5	Bay Street	- Thurin Avenue to Newport Boulevard
6	Harbor Boulevard	- Adams Avenue to Baker Street
7	Harbor Boulevard	- Baker Street to Gisler
8	19th Street	- Park Avenue to Fullerton
9	Adams Avenue	- Harbor Boulevard to Mesa Verde East
10 & 11	Baker Street	- Randolph to Corona Del Mar Freeway
12	Baker Street	- Corona Del Mar Freeway to Babb Street
13	Harbor Boulevard	- Gisler to Sunflower
14	Harbor Boulevard	- Sunflower to MacArthur
15	Sunflower Avenue	- Bristol to Flower
16	Park Avenue	- 19th Street to 18th Street
17	Fair Drive	- Fairview Road to Elden Avenue



The clutter of overhead utility lines detracts from the visual image of the City.

While telephone and electrical distribution lines are commonly installed underground, high-voltage transmission lines, such as those along Fairview Road and the Santa Ana River, are rarely undergrounded because of additional technical difficulties and expense.



Passive solar design is an attempt to utilize characteristics of the local climate for natural heating and cooling.

Because passive solar design primarily involves additional considerations in the design of buildings and little, if any, additional materials or equipment, the cost-effectiveness is quite high. In some cases, passive design can actually decrease initial costs by allowing smaller heating and air-conditioning appliances to be used.

More involved passive designs incorporate additional features such as denser building materials or water storage facilities adjacent to walls or on roofs to absorb and radiate heat. Costs of these designs are higher and add to the cost of a home.

Perhaps the most cost-effective application of passive solar energy is the use of swimming pool covers. These relatively inexpensive devices help heat the pool during the day and reduce heat loss at night. The initial investment can often be recovered in the first year of use.

Active solar systems are employed for the same uses as passive systems, but utilize additional technologies. Active systems consist of a series of solar collection panels through which a fluid (usually water) is passed to absorb heat from the sun. In water heating systems, the heated water is passed into a storage tank for use upon demand. A backup heater fueled by gas or electricity is normally included to provide additional heating on cloudy days.

For space heating, pipes containing the solar-heated water are passed through the forced-air duct where the heat is transferred to the air. With the addition of an absorption chiller, active solar systems can also be used for cooling. These systems, however, are not cost-effective at the present time.

Active solar water heating systems have been shown to result in significant savings - in both energy and cost - when compared to electric water heaters. Recovery of initial costs can be accomplished within four to nine years. Depending upon individual circumstances, solar water heating may or may not be cost-effective when compared to natural gas. However, the advantages of solar will become more pronounced as natural gas prices increase.

Use of active solar space heating systems has been found to be cost-effective when compared to certain types of electric heating systems, and it is estimated that cost-effectiveness may exceed that of gas-fired heaters in the future. The cost of active solar systems for space heating varies widely depending upon individual circumstances.

As with passive systems, swimming pool heating represents the most cost-effective use of active solar systems. Depending upon the system and local temperature conditions, initial costs can be

recovered within three to seven years. Use of a pool cover will help to shorten the pay-back period.

Vehicular Fuels

The rate of growth of energy demands for transportation can be mitigated in several ways. Conventional vehicles - autos, trucks and buses - can be modified to achieve greater fuel economy or to accept alternate fuels. Federal legislation has been adopted to require improved efficiency of automobile engines.

The Federal law setting the maximum speed limit at 55 miles per hour was aimed at reducing vehicular fuel consumption. Most cars consume 25 percent to 30 percent less fuel at 50-55 mph than at 65-67 mph. The full effect of this measure has not been felt because of a lack of voluntary compliance and sufficient enforcement.

Use of alternative fuels is another way of reducing the demand for oil and gasoline in the transportation sector. A number of research and development programs are being carried out to discover and perfect fuels or fuel additives which will provide adequate engine performance with minimal pollution at a reasonable cost. The most widely used alternative fuel is propane gas.

Land use policies also affect the consumption of energy for transportation. The historic pattern of growth and development in Southern California "urban sprawl" - has made necessary an intricate network of freeways and surface streets. As the region becomes more decentralized - residences and places of employment scattered over large areas - mass public transit (trains, subways, etc.) become less feasible and the private auto becomes a necessity.

Although the regional pattern has already been established, opportunities still exist for energy sensitive land use and transportation decisions on a local level. Concentration of higher density housing and employment centers along major transportation corridors increases the convenience of public transit and may encourage reduced use of private automobiles with a corresponding reduction in vehicular fuel consumption. Integrated, or mixed-use developments provide the opportunity for people to live within walking distance of employment and/or shopping. By its nature, of course, this technique is more feasible and more effective when applied to large parcels of land.

Vehicular fuel reductions can also be realized by the implementation of transportation systems management (TSM) techniques. These measures range from street improvements such as additional lanes, modified signals and turning facilities, and parking restrictions to increase the efficiency of traffic flow (thus reducing travel time) to policies and actions encouraging carpooling and use of public transit and bicycles - to reduce total vehicle miles traveled.

Recent years have seen an increase in the use of high-occupancy vehicles, such as carpools and van pools, by commuters. Although this trend has not yet produced a significant impact, it does indicate some degree of public support. The CalTrans Ridesharing Program, which provides free carpool matching, has resulted in a Statewide fuel savings. Benefits of high-occupancy vehicle use include reductions in traffic congestion, air pollution, and energy consumption as well as cost savings to the participants.

Other means of reducing transportation energy requirements by reducing vehicle trips include increased use of public transit. The primary method of public transit in the Southern California area is the bus system. Alternate transit modes such as trains, subways, and other fixed-rail systems, people-movers, shuttles, and dial-a-ride buses may help to increase the attractiveness, and thus the use, of public transit. The Transportation Subelement provides additional discussion on this topic.

WATER

As discussed in the Hydrology Subelement, domestic water is primarily provided to Costa Mesa by the Mesa Consolidated Water District (MCWD). Santa Ana Heights Water Company serves a portion of the east side of Costa Mesa (see Figure 10).

To meet the future water supply demands anticipated in Costa Mesa MCWD updated and adopted their Master Plan in 1990. This Master Plan includes 332 miles of transmission and distribution lines, ten well sites, and two reservoir sites. The well sites are in the northern portion of the City. One reservoir was recently completed on the west side of the City and the second reservoir is proposed for the east side of Costa Mesa.

A primary focus of the 1990 Master Plan is the development of the City's groundwater resources for domestic water use. MCWD's goal is to supply 70% of the service area's needs from groundwater, which costs significantly less than imported water. The Master Plan projects that this goal can be achieved in 1993-94.

Santa Ana Heights Water Company updated their Master Plan in 1988, based on land uses anticipated by the City's General Plan. The Master Plan anticipates an increase of water consumption in its service area based on the development of vacant areas and the intensification of some land uses.

Santa Ana Heights Water Company imports all of its water and, therefore, the company has no wells. Furthermore, the supply sources discharge directly into the distribution system, therefore, no reservoirs are in service. The company does lease 50 acre-feet of storage in the San Joaquin Reservoir. In the event of an outage in the normal supply system, the company has the ability to access the water in the reservoir. The Master Plan includes several distribution system upgrades to meet future domestic water demands.

As new development occurs within the City, it will be reviewed by the appropriate water agency to ensure that adequate water supply is available.

Water conservation issues are discussed in the Hydrology discussion of the Environmental Resources Management Element.

WASTEWATER

The Costa Mesa Sanitary District (CMSD) is the local sewerage agency for the majority of the City. The remaining portions of the City are served directly by the County Sanitation Districts of Orange County (CSDOC) which also treat the wastewater. Both CMSD and CSDOC maintain master plans based on anticipated land use intensities in order to estimate and plan for future needs. CSDOC has recently updated its Master Plan which guides wastewater collection, treatment and disposal activities through the year 2020.

Wastewater, collected by the Costa Mesa and County districts, is processed at CSDOC's treatment plants located in Fountain Valley and Huntington Beach. CSDOC operates under a 5-year National Pollution Discharge Elimination System (NPDES) ocean discharge permit issued by the California Regional Water Quality Control Board and the EPA. This permit has a set discharge limit for biochemical oxygen demand (BOD) and suspended solids. Currently, CSDOC's discharge is close to the BOD limit.

Three elements of the sewage disposal system must be considered in conjunction with the General Plan: local collection lines, major trunk lines, and treatment facilities. County treatment plans had been planned in accordance with regional growth forecasts and the County Sanitation Districts recently updated their Master Plan to reflect current growth projections. The Costa Mesa General Plan is consistent with regional growth projections.

Collector and trunk lines should generally be adequate to accommodate sewage generated by future growth in Costa Mesa. Localized impacts may result from increases in development intensity beyond that envisioned by the 1970 General Plan for which the collector system was designed. The Costa Mesa Sanitary District will be impacted similarly. Such impacts are most likely to occur in conjunction with medium- and high-density residential developments as well as in the urban center areas.

Through the City's environmental review of all new projects, specific impacts to the wastewater collection system will be determined at the time a project is proposed. Any identified impacts to the collection system will be mitigated through project design and/or the construction of facilities and/or payment of appropriate fees determined by the affected sanitation district.

PUBLIC SERVICES

The City provides a number of services to the community. This discussion will focus on City administration, fire protection, police and disaster preparedness services. This discussion also includes education and child care services for which the City has a more indirect role.

CITY ADMINISTRATION

The level of services to be offered by the City is a complex issue. The subject has become even more complicated in light of recent limitations placed on cities' abilities to raise and spend money. Questions such as how large a police force or fire department to maintain and how often to mow the lawns in public parks are affected as much by economic conditions as by consideration of the level of needs. Figure 49 illustrates the location of City operated facilities. The City's two libraries are also noted; however, they are owned and operated by the County of Orange.

Budgetary Process

Since incorporation, Costa Mesa has been able to maintain a balanced budget in spite of adverse fiscal conditions relating to constricting revenues, increasing demands for public services, and escalating operation and maintenance costs which have plagued certain municipalities across the nation. While legal restrictions and political considerations generally mandate the development of a balanced budget, the health and vitality of the local tax base and a tradition of prudent municipal management have combined to ensure realization of this goal since 1953. These favorable fiscal conditions have enabled Costa Mesa to provide and maintain a high level of service and quality of life for the citizens of the community.

Local government finance is an increasingly dynamic process which requires constant attention and refinement. A large portion of Costa Mesa's revenues are dependent upon the actions of the private sector and other governmental agencies over which the City has limited or indirect influence. The City's largest single revenue source, retail sales tax, is tied to the strength and vitality of the community's commercial base and the rate of real economic growth in the economy. Because of the provisions of Proposition 13, the City Council can no longer enact general property tax rates but instead must rely on its proportionate share of all County taxes adjusted by reassessments within Costa Mesa. While Council action regarding the allocation, distribution, and intensity of land uses within the community can influence these revenue sources, the results are often long term impacts.

Expenditures are also subject to a high degree of external influence. State legislative mandates often dictate certain municipal functions and minimum levels of service which can have direct and significant cost implications. However, of more critical concern are the short and long term implications of Proposition 4. This voter-approved constitutional amendment ties local government expenditures to population growth and/or general cost of living increases.

PUBLIC FACILITIES

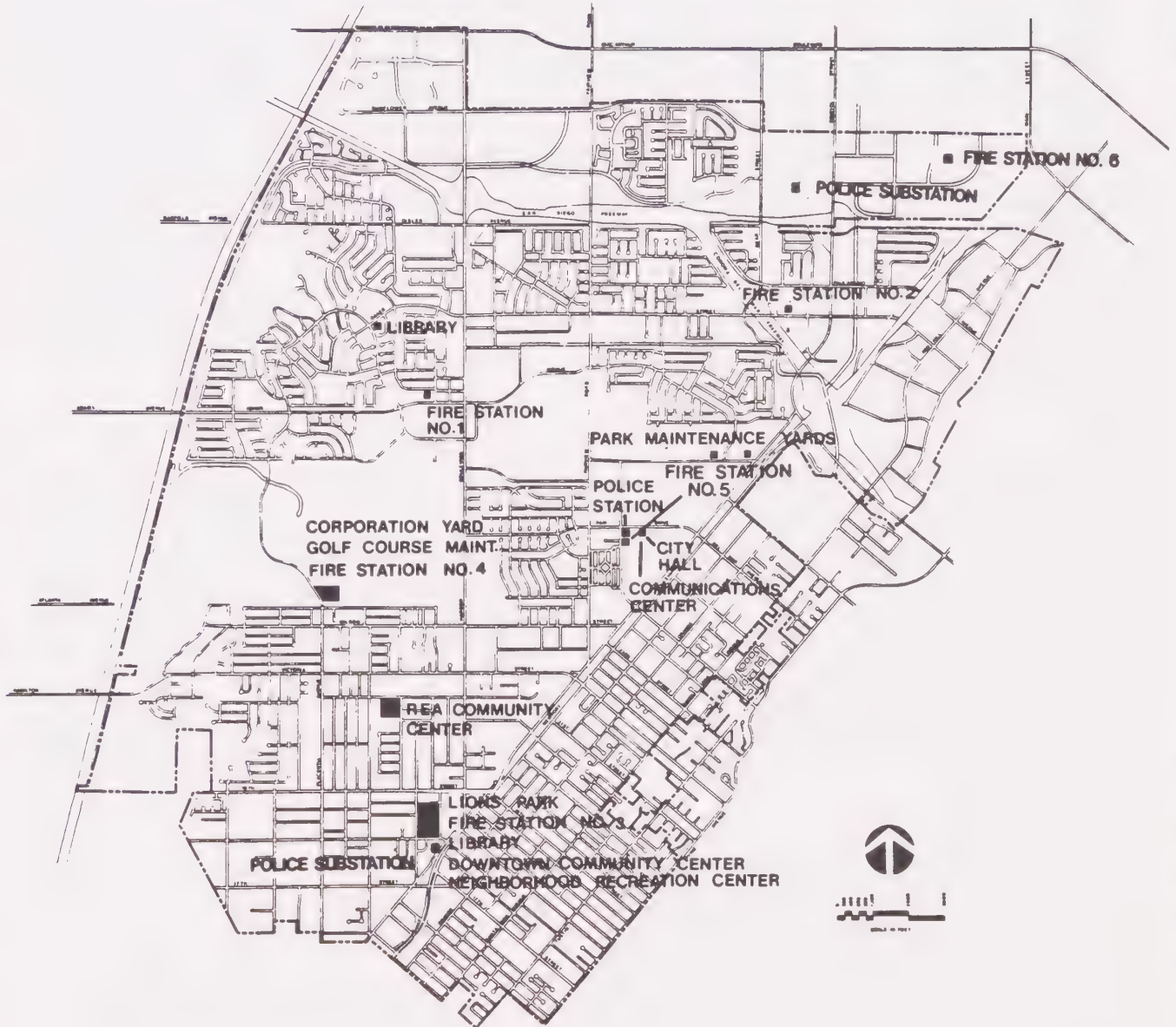


FIGURE 49



Costa Mesa's budgetary process involves six tradition bases or foundations which influence all local government financing. The historical base relates to the degree to which the annual budget is tied to previous trends and local practices and emphases that have developed in response to local needs and pressures. Second, the social base refers to the degree to which the particular social or demographic characteristics of the community impact budgetary decisions and program expenditures. As noted earlier, the economic base of the community can have significant impacts on both revenues and expenditures. Since the annual budget is a policy document, it is also influenced by the political base or ideals of the major decision makers and citizens. The fifth, the legal base, often establishes regulations concerning the publication and adoption of the budget as well as constraints relating to the development of a balanced budget or limitations on taxing powers and expenditures of public funds. The final base is often the most constraining and may be characterized as the financial base which related to the balancing of expected revenues and desired expenditures. These foundations combine to create the overall fiscal environment in which the City's goals and objectives are transformed into the dollars and cents of the annual budget.

Citizen Participation

The concept of citizen participation is one of the basic tenets of democracy and, as such, has long been honored. Public participation is the decision-making process results in policies which have stronger public support. The sense of community is often strengthened, new ideas are generated and considered, and decision-makers gain more accurate insight into the effectiveness of their policies and decisions. Some form of citizen participation is now required by State and Federal regulations governing planning and policy decisions and preparation of certain grant applications. Out of the many different techniques which are available, the major approaches are discussed below.

Surveys

Survey research is a method of citizen participation which serves to inform local government about the opinions and desires of the residents. It has one main strength in that it tends to evoke more responses from the "silent majority". In a study done in Carbondale, Illinois, in 1972, it was found that there are differences between the way citizens who participate perceive local government and the views of the average citizen. Participators see the city as more of an active agent of change than simply a service provider, and themselves as activist members of the change process in the community. Nonparticipants are more inclined to see themselves as recipients of services; they see themselves as "the governed" with little power to control the direction of that government. These differences in perception and attitude may reflect different concerns, order of priorities, etc. Survey research is one of the best ways to ensure a representative sampling of these different opinions.

The technique is, of course, limited in its applicability. Mail surveys tend to have a low response rate and are biased towards responses by "participators". Telephone and in-person surveys overcome this bias to a large extent but are considerably more expensive.

The survey is most suited to "pulse-taking" and basic information gathering. Many issues are too complex to be reduced to survey format. Also, surveys are limited in that they do not provide for discussion, interaction, or negotiation which often are essential to the decision-making process.

Citizen Committees

Citizen committees can be citywide or neighborhood in scope and organized by general or special interest. They may be called into being for a limited time period to consider a given problem or may be ongoing groups. They provide an ideal forum for bargaining among various special interest groups and, if broadly based, can assist in developing priorities and programs assured of greater support. Committees are useful not only for the establishment of goals, priorities, etc., but can also be used to monitor or evaluate projects and to disseminate information. It is important that representatives of all affected groups be included on the committee while still keeping the group small enough to work effectively. Citizens may sometimes be involved in the selection of members. The City is currently making use of several citizen committees. The Senior Citizens Committee was established in March 1985 to serve as an advisory group to the city council and general public. The Transportation Commission, consisting of five members, makes recommendations to the City Council on ways and means to improve traffic conditions. The Child Care Committee provides recommendations to the Council on child care issues. The Cultural Arts Committee was established in 1984, in response to significant growth in cultural arts activities.

The Housing and Community Development Act of 1974 provides for issuance of block grant funds to local agencies for community development projects. Costa Mesa, in accordance with this act, established a Housing and Community Development Ad Hoc Committee to determine the areas and extent of need and to recommend eligible programs to meet these needs.

Other committees include the Cable Television Committee, the Auto Dealers Task Force, Fairview Park Committee, the South Coast Plaza Bridge Task Force, the Redevelopment Advisory Committee, General Plan Steering Committee, Human Relations Committee, Inter-City Liaison Committee, and the City Council Advisors.

Established Groups

Established groups such as business, social and civic organizations, and homeowners' associations provide ready-made structures for citizen participation and dissemination of information. The officers of these groups are readily identifiable points of

contact. Many members of such groups are concerned about the City and informed on local issues. However, the members of some groups may not be typical citizens and their input may not be an accurate reflection of the goals and desires of the citizenry as a whole. Any such built-in biases should be taken into account when selecting groups to participate in a particular matter.

Public Meetings/Hearings

The Ralph M. Brown Act (§54950 et seq.) requires all meetings of public agencies to be open to the public; in Costa Mesa this applies to the City Council as well as to the City's commissions and committees. Agendas must be posted at least 72 hours in advance of the meeting, and the public must be given the opportunity to directly address the Council or Commission.

Many actions of the City are required by law to be preceded by public hearings in order to obtain citizen input prior to commitment to a project or course of action. Public hearings provide a forum for individuals and groups with serious interest in a particular subject to express their views. They do not, however, obtain the views of those who are shy of the public forum, nor do they involve a variety of people on a continuing basis.

Notice of public hearings must be provided in the manner prescribed by law. Depending on the subject of the hearing, the criteria may be established by Federal law (for HCD Block Grant applications, for example) or State law (rezone, variances, etc.). Local ordinances may provide additional or more specific criteria. In California, required notice for most land use related hearings involves mailing to property owners in the vicinity of the affected property. In some cases, additional notice must be given by publication in a local newspaper or by posting in the vicinity of the property. The Costa Mesa Municipal Code has, since before 1960, required all three methods to be used (mail, newspaper, and posting). Costs of postage, newspaper space and/or staff time are incurred by all three. In 1978, the Code was amended to discontinue the posting of notice for Planning Commission actions, and to rely on mailed notice and, where required by State law, newspaper advertisement. In addition to the cost savings, this has eliminated the clutter caused by posting notice cards in visible locations throughout the City. In the first year after elimination of posted notice, there was no indication that the level of awareness of public hearings had been reduced as a result.

Press

Local press serves a very valuable role in informing the public of the issues, and of the proposed and final actions taken by government. Not only are notices of public hearings published but, perhaps more importantly, news articles highlight the more significant issues. The news media can exert great influence on public opinion through the manner of reporting and through editorial comment. Much confusion and citizen opposition is the result of a lack of thorough understanding of the issues. For this

reason, it is important that a good relationship be maintained between the City and the press so that full disclosure and reporting will relay complete and accurate information to the citizens.

Newsletter

To allow reporting of policies and programs to citizens who do not subscribe to local newspapers, many communities have begun publishing periodic newsletters. These newsletters can be used to make residents aware of City programs or services which may affect them, to solicit input with regard to policies or programs currently under consideration, or to advise of activities or developments taking place in the City. Newsletters may range from single sheet inserts mailed with water bills to independently mailed multi-page reports with photographs.

The City began distribution of the "Costa Mesa Community Report" in January 1986. The newsletter is published every two months to keep the community informed of the most up-to-date activity in the City. In addition, the Community Services Department mails a booklet to each resident four times a year containing schedules for City-sponsored recreational activities.

Cable Television

In early 1988, the City began cablecasting City Council and Planning Commission meetings on the cable system's Government Access Channel. The City's unique cablecasting system gives residents the opportunity to view important public meetings from home. In addition to the airing of public meetings, City Hall Report is also shown on the City's Access Channel. This program, hosted by the Mayor and Council Members, features current topics of community interest.

FIRE PROTECTION SERVICE

Fire Department Services

The Fire Department is responsible for fire prevention, enforcement of fire protection laws and ordinances, fire suppression, emergency medical services, hazardous materials response and weed abatement. These services are considered essential and must be continually reviewed and updated in the planning process. Fire protection incorporates all elements of the community, the private sector, the community agencies and the Fire Department. Originally, fire protection was a concern of the private sector. Later, this concern shifted to the Fire Department and the community agencies. Now the trend is to balance the various elements to better serve community needs through the use of built-in fire protection such as early warning and detection systems, automatic fire sprinklers, fire resistive design of structures and materials, fire prevention inspections and public education.

Modern cities have been successful in attracting and keeping business and industry by maintaining low, base fire insurance rates. These rates are set by ISO Commercial Risk Services, Inc., and are on a scale of one to ten with protection class one affording the best rates. Ratings are based essentially on the capability of the Fire Department to deliver needed quantities of water to building fires in a timely fashion. Factors considered in the rating include: required fire flow for buildings; available water supplies; fire station locations; fire equipment and personnel; fire inspection programs; firefighter training programs; and fire communications systems.

Costa Mesa has achieved and maintains a protection class two, which affords residents and business owners excellent base fire insurance rates. In order to maintain this high rating, the City must maintain a high level of fire protection and prevention as building densities increase and vacant land is developed. This is accomplished by continual monitoring of existing conditions, review of all building projects and planning for additional fire protection facilities, equipment, personnel and training to meet future needs.

Fire Station Locations

The factors affecting the location of fire stations in the City include: economics; major fire potential; high life hazards; historical significance; response distances; street patterns; traffic volumes; and required fire flow. Required fire flow is the amount of water needed for fire fighting purposes to confine a major fire to a single building. It is computed mathematically and considers: building area, height and density; type of building construction; building occupancy; and built-in fire protection. The required fire flow is determined throughout the City. The optimum location of fire stations and companies is then plotted from the largest required fire flows in each district based on a relative distance-hazard formula.

Evaluation of the buildout potential of this General Plan estimated that a total of seven fire stations and associated personnel and equipment will be needed in the City. The existing and future fire station locations are shown in Figure 50. Station 6 is currently under construction and Station 7 will become necessary when the vacant land in the vicinity of Harbor Boulevard and South Coast Drive is developed. A developer impact fee program has been adopted for financing the construction of Station 6 and related equipment. No funding mechanism has yet been established for Station 7.

Water Supply

In general, the required fire flow is closely related to land use. The quantity of water necessary for fire protection varies with the type of development, life hazard, occupancy, and the degree of fire hazard. Fire flow requirements vary from 1,500 gallons per minute (GPM) in low density residential areas up to 5,500 gpm in commer-

cial, industrial and high density residential areas. A maximum required fire flow of 5,500 gpm was established by ordinance in 1978 so that the fire potential of new buildings would not exceed the water delivery capability of the Fire Department.

All proposed development is reviewed by the Fire Department for required fire flow. The required fire flow is then utilized to determine the size of water mains and the number and distribution of fire hydrants according to a chart available in the Fire Prevention Bureau. If the required fire flow is not available, then the development must be tailored to the existing water availability or the water supply and hydrant distribution must be improved at the expense of the developer. This tailoring may require built-in fire protection, more fire resistive construction, decreased building size or increased separations between buildings. Water supplies are tested periodically for pressure and volume and records kept of the results in a water atlas at the Fire Prevention Bureau.

Fire Prevention

Fire prevention activities include engineering research, enforcement of State laws and City ordinances and public education to minimize unnecessary and avoidable fires. All businesses in the City are inspected at least annually for conformance with fire prevention laws and ordinances and elimination of fire hazards. Public education includes training programs for all age groups, industries, and institutions by staff members and fire suppression members so that the public will be fire prevention conscious. It is vital that all the people who live and work within the City recognize potential fire problems and take corrective actions such as installing detection, early warning and automatic fire suppression systems. Injuries, fatal fires and property loss will not be significantly reduced until the public adopts a more fire-conscious attitude.

Fire Suppression

Since not all fires can be prevented, maintaining a well trained, capable and well equipped fire fighting force is essential. Quick containment and suppression are key considerations, therefore, response time is critical. Every effort is made to avoid excessive response times. Some of the key factors in reducing response times include maintaining the highest quality emergency communications system to ensure as little delay as possible between the receipt of an alarm and the dispatch of the closest and most appropriate fire apparatus. A goal of the Fire Department is to respond to fire and emergency medical emergencies within five minutes ninety percent of the time. Automatic and mutual aid agreements throughout the County assure assistance for major incident resource needs and closest unit response service.

Another method of reducing response times is to ensure that all developments are provided with appropriate identification in terms of addresses visible from the street and appropriate fire apparatus

FIRE STATION LOCATIONS

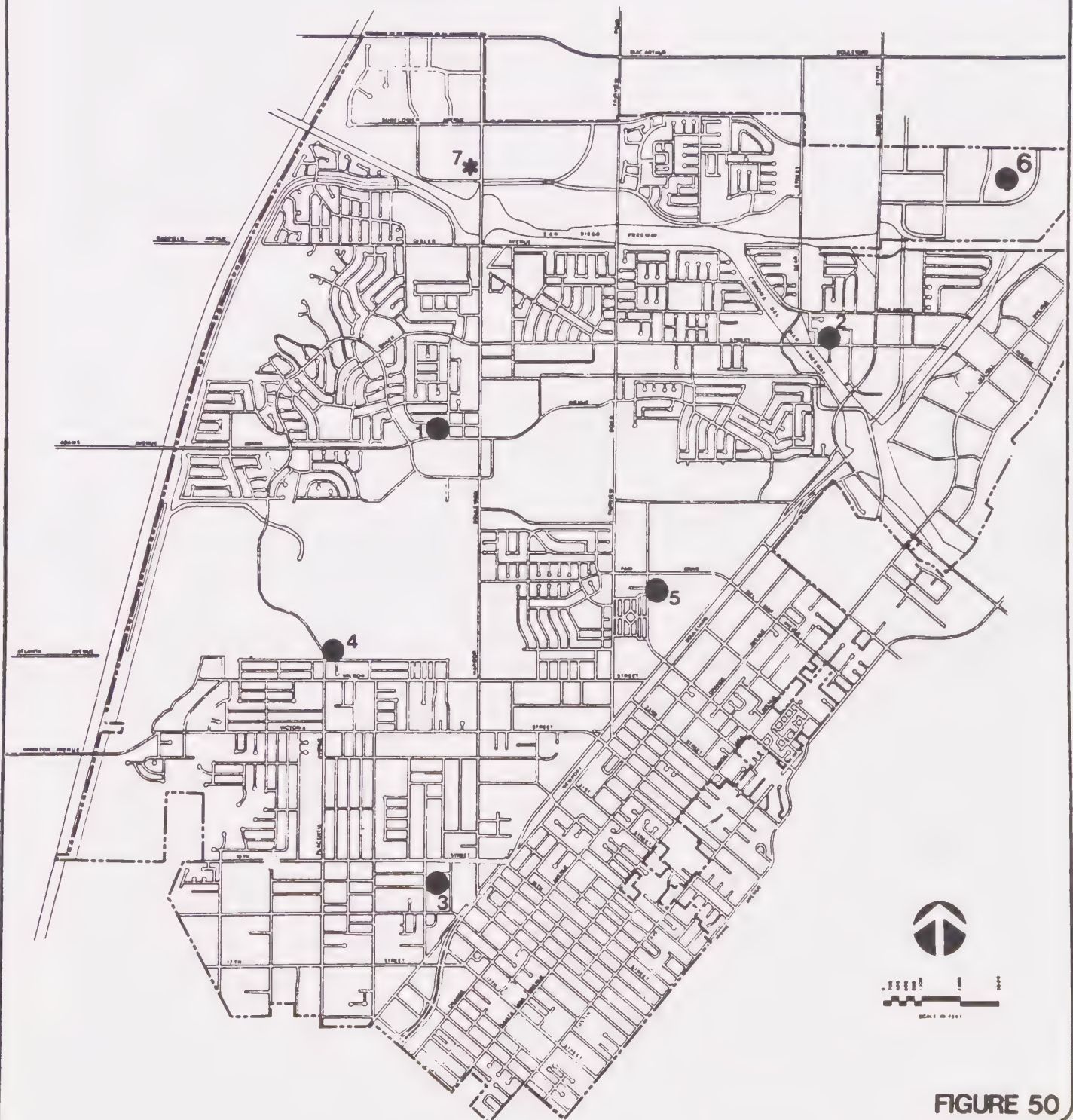


FIGURE 50

● EXISTING
 * PROPOSED
 APPROXIMATE LOCATION



access. Access considerations include width of roadways, vertical clearance, adequate turning radii, appropriate turnarounds and lack of obstructions.

Emergency Medical Services

Emergency medical services are also provided by the Fire Department. Specially equipped fire apparatus provide advanced life support (paramedic) level service with State certified paramedics. All other nonparamedic fire personnel are trained at the basic life support (emergency medical technician) level. The program was initiated in 1972 and has grown to the point where requests for emergency medical assistance account for approximately 74% of all Fire Department responses. The program strives to meet the goal of responding to ninety percent of requests for emergency medical care, within five minutes. Program success is measured by a countywide, State mandated quality assurance program.

Hazardous Materials

Incidents involving hazardous materials have the potential of being very costly to the City in terms of risk, liability and potential of loss of life and property. All firefighters are trained to the hazardous materials first responder level, but the City does not have the capability to handle incidents of a major nature. Rather, the City contracts with the Orange County - City Hazardous Materials Emergency Response Authority for response to major hazardous materials emergencies.

POLICE SERVICES

The Police Department is responsible for crime prevention programs, crime investigation, enforcement of traffic laws, accident investigation, and related duties. The department's patrol force utilizes automobiles, motorcycles, helicopters, and foot beats to maintain maximum flexibility and capabilities under varying circumstances. With 142 sworn personnel in 1989, the ratio of police officers to population is approximately 1.6 per 1,000. This is slightly higher than the average ratio for other Orange County cities of similar size, and approximately equal to the national ratio for cities with populations of 50,000 - 99,999. Although the ratio normally considered to be optimum is 2 per 1,000, the number of officers alone does not determine the service level of a police department. Characteristics of the city (size, shape, population, and crime rate) have an effect, as do other factors such as use of helicopters and other modern technology.

Utilizing a computer model that projects police staffing, equipment and facility needs, the Police Department estimates that upon General Plan buildout (post 2010) an additional 64 police personnel will be needed and associated equipment and facilities. These personnel include patrol, traffic, investigative, civilian support and other sworn staff members.

The computer model provides a tool that can analyze potential impacts of new development proposals. In order to fund the needed new personnel, equipment, and facilities, it is anticipated that an impact fee program for new development will be prepared and adopted based on the computer model.

As shown on Figure 49, the primary police station is located on Fair Drive at the Civic Center complex. There are two police substations: one in South Coast Plaza and the other in the downtown area on West 18th Street. An elevated heliport is located at the Civic Center from which the Police Department operates three helicopters.

Additional growth within the City may require an expansion of the existing police station and/or police substations or the siting of a new substation. The need will be evaluated on an annual basis by the Police Department.

DISASTER SERVICES

In May 1991 the City of Costa Mesa updated its Multihazard Function Emergency Plan which addresses the City's planned response to extraordinary emergency situations or disasters which might occur within the City or at other locations with resultant effects upon Costa Mesa and its population.

The plan does not apply to day-to-day emergencies and the routines which have been developed by the various City departments which respond to those emergencies.

The operational concepts which are addressed in the plan relate to large scale disasters or emergencies which can, and probably will, generate inordinate demands on the City and its personnel. These demands will, in turn, require other than normal responses. Such situations will pose major threats to life, property and the economic well-being of the community and its people. The operations defined in the plan are meant to mitigate the effects of the emergency event.

The plan is a preparedness document and it is intended to be understood before an emergency. Upon the occurrence of a disaster or major emergency, the plan serves as an operations guide and blends with the statewide emergency management system.

The plan is organized in three parts:

Part One is the Basic Plan. It addresses the overall emergency management system and the organizational and operational concepts for responding to various types of emergencies which can occur within the City. These types of emergencies are discussed in the scenarios contained in this part of the plan.

Part Two includes a series of annexes which address emergency response functions. Each annex has a series of checklists which reflect hazard response considerations.

Part Three contains sample emergency proclamations and a list of emergency management definitions.

All City department managers who are assigned emergency responsibilities within the plan will prepare appropriate internal plans and Standard Operating Procedures (SOP) to ensure that the necessary level of preparedness and response capability will be met when required. These internal actions include preparation and maintenance of necessary reference and resource documents; periodic review and update of recall and operating procedures; and, orientation of personnel.

The plan is only to be activated under one of the following conditions:

- On the order of the Mayor, the Director of Emergency Services (City Manager), or in his absence, the Assistant Director of Emergency Services (Police Chief). In this event a state of LOCAL EMERGENCY will exist or is anticipated and a local proclamation will have been issued or can reasonably be expected.
- When the Governor has proclaimed a STATE OF EMERGENCY in an area which includes this City.
- Automatically on the proclamation of a STATE OF WAR EMERGENCY by the Governor. This condition is defined in the California Emergency Services Act.
- Automatically upon a Presidential declaration of a NATIONAL EMERGENCY.
- Automatically on receipt of an attack warning or on observation of a nuclear detonation.

EDUCATION

Costa Mesa offers a wide variety of educational opportunities which include public schools at grade levels kindergarten through grade 12, private schools at levels preschool to grade 12, and two colleges.

Public education is provided by the Newport-Mesa Unified School District for grades K-12 and includes special education programs for physically and mentally handicapped children. The District serves Newport Beach and adjacent unincorporated areas in addition to Costa Mesa. A portion of Costa Mesa near the airport is within the Santa Ana Unified School District. However, since very few residences are within this area, statistics for this District are not included in this section.

Newport Mesa Unified School District has experienced a decline in enrollment in the past which has caused the closure of many schools. As noted in Table 45, the 1969 enrollment in the City's 28 public schools was 17,139, whereas in 1986, the figure dropped to a low of 8,978 students in 16 schools. Total enrollment did increase in 1989 to 11,563 students and the District is expecting student enrollment to continue to increase with corresponding reopenings of closed schools. The District schools offer a full academic program. Academically, students' test scores are well above the nationwide and State averages for SAT's and Achievement tests.

TABLE 45

ENROLLMENT IN PUBLIC SCHOOLS SERVING COSTA MESA

	<u>1969</u>	<u>1978</u>	<u>1980</u>	<u>1982</u>	<u>1984</u>	<u>1986</u>	<u>1989</u>
<u>Elementary</u>							
Adams	531	443	426	296	321	•	155
Balearic	213	•	•	•	•	•	•
Bay View	333	•	•	•	•	•	•
Bear Street	297	340	301	292	268	338	•
California	447	246	295	294	326	583	743
Canyon	258	•	•	•	•	•	•
College Park	595	335	326	339	395	444	550
Harper	571	•	•	•	•	•	•
Killybrooke	477	321	267	300	317	362	417
Lindbergh	562	282	423	368	•	•	•
Mesa Verde	466	239	•	•	•	•	•
Monte Vista	409	270	•	•	•	•	•
Newport Heights	780	551	•	•	•	•	•
Paularino	566	441	387	368	331	295	650
Pomona	541	372	377	435	424	461	576
Presidio	356	•	•	•	•	•	•
Sonora	497	382	364	425	400	365	513
Victoria	343	180	•	•	•	•	•
Whittier	530	384	358	424	392	463	565
Wilson	548	379	499	504	554	595	646
Woodland	441	331	312	289	•	•	•
Kaiser	•	•	•	•	706	732	578
<u>Intermediate</u>							
Davis	983	947	833	495	489	484	•
Kaiser	727	506	445	409	•	•	•
Rea	599	569	454	•	•	•	•
TeWinkle	861	916	814	953	787	623	550
<u>High School</u>							
Costa Mesa	2,077	1,783	1,685	1,473	1,306	1,198	1,720
Estancia	2,091	1,979	1,826	1,674	1,611	1,578	1,360
McNally + Back Bay*	40	397	470	535	•	•	•
Back Bay	•	•	•	•	251	215	127
Independent Study	•	•	•	•	134	242	372
Parsons**	•	27	•	•	•	•	•
TOTAL	17,139	12,620	10,912	9,873	9,012	8,978	9,522

• Schools closed.

* Handicapped only 1967-73, Continuation High 1974.

** Handicapped only.

TABLE 46

ENROLLMENT IN PRIVATE SCHOOLS IN COSTA MESA

	<u>1969</u>	<u>1978</u>	<u>1980</u>	<u>1982</u>	<u>1984</u>	<u>1986</u>	<u>1989</u>
Newport Community	•	•	•	•	•	•	•
Costa Mesa Christian	200	145	138	•	•	•	•
American Christian	•	142	150	150	140	133	•
Anna's Day	•	24	30	24	28	29	•
Bennett-Hicks	•	•	14	34	43	46	58
Carden Christian I	•	•	•	•	129	166	•
Christ Lutheran Elementary	200	212	231	267	242	238	238
Copre Christian	•	•	•	•	115	127	•
Cornerstone Coop.	•	•	•	•	•	12	•
Dean's Christian Academy	•	•	•	•	•	•	•
Harbor Christian Academy	•	•	•	15	22	60	41
Mardan School Ed. Therapy	80	79	86	77	60	50	•
Montessori Harbor Mesa	•	56	83	97	85	84	96
Page School	•	42	67	111	148	105	185
Park Private Day	•	150	168	221	164	174	150
Port Mesa Christian	•	•	23	59	64	66	50
Prince of Peace Lutheran	225	278	345	335	367	356	273
Saucerman	•	•	•	•	•	•	•
St. Joachim Elementary	356	227	199	246	215	183	250
St. John the Baptist	780	560	568	608	596	586	550
University Montessori	•	•	•	6	16	10	40
Vineyard Christian	•	•	•	•	•	51	110
Heritage Academy	•	•	•	•	•	•	•
Irvine Coast Christian	•	•	•	•	175	•	•
Sycamore Tree	•	•	•	•	49	•	•
Carden Christian II	•	•	103	275	113	•	•
Maple Avenue Christian	•	7	17	13	•	•	•
Orange County Apple	•	•	24	24	•	•	•
Carden Mesa	•	35	31	•	•	•	•
Euremont Private	81	•	•	•	•	•	•
Neuman Christian	75	•	•	•	•	•	•
Montessori Centre	60	•	•	•	•	•	•
Valley Professional	•	9	•	•	•	•	•
TOTAL	2,057	1,966	2,277	2,562	2,771	2,476	2,041

• Schools closed.

* Not including preschools, kindergarten only, or very small schools.

Compared to public schools, private school (K-12) enrollments have remained fairly stable as noted in Table 46. (Private preschools, also referred to as day or child care centers are discussed in subsequent sections.)

Table 47 shows total enrollment for public and private schools at various years between 1969 and 1989. The 1989 figure is 40% less than 1969 figures.

TABLE 47

Public and Private School Enrollment in Costa Mesa

	<u>1969</u>	<u>1978</u>	<u>1980</u>	<u>1982</u>	<u>1984</u>	<u>1986</u>	<u>1989</u>
<u>Public</u>	17,139	12,620	10,912	9,873	9,012	8,978	9,522
<u>Private</u>	<u>2,056</u>	<u>1,966</u>	<u>2,277</u>	<u>2,562</u>	<u>2,771</u>	<u>2,476</u>	<u>2,041</u>
<u>TOTAL</u>	<u>19,196</u>	<u>14,586</u>	<u>13,189</u>	<u>12,437</u>	<u>11,783</u>	<u>11,454</u>	<u>11,563</u>

The Newport-Mesa Unified School District owns 28 parcels of land within the City of Costa Mesa. Nineteen are elementary school sites (of which nine are closed), four are intermediate schools, two are high schools, one contains the central kitchen and continuation high school, one contains warehouses and the school bus yard, and one is vacant.

The closed schools are used by the school district for special education or administrative functions, or are leased to others for educational, recreational, or similar uses. The City leases Balearic School to house classes and programs administered by the Community Services Department. The policy of the school district has been to retain ownership of existing elementary school facilities while leasing them to other users on a short-term basis. Population projections indicate that the number of school age children will again rise in the 1990's. As this occurs, the district will be able to reopen closed schools to meet the demand.

The district's instructional media center, warehousing facilities, and bus yard are located on an 11-acre parcel at the southwest corner of Bear Street and Baker Street. A portion of this site (approximately 1.5 acres fronting on Baker Street) is unused and may be declared surplus in the future.

College Campuses

Two college campuses are located within Costa Mesa: Orange Coast College (OCC) and Southern California College. OCC is the largest single-campus community college in the nation, offering A.A. degrees and certificate programs in more than 200 fields. It also serves as an entry point for students wishing to transfer to other

colleges and universities for higher degrees. OCC has transferred more students to four-year institutions across the nation over the past decade than any other community college in California. It also serves more than 80,000 adults annually with community service workshops, lectures, seminars and fine arts programs.

OCC opened its doors in 1948 with an enrollment of approximately 500 students. The college's enrollment has grown steadily in recent years, climbing from 22,295 students in 1983-84 to more than 25,000 in 1989-90.

Southern California College, established in 1929, is a private 4-year college located adjacent to the Civic Center. Enrollments have steadily increased in recent years from an average of 620 in 1979 to 920 in 1987. The campus facilities and housing have also expanded. In 1979, the dormitories housed 350 students, whereas in 1986, the dorms housed 463 while 85 lived in the campus apartments.

Coastline Community College, established in 1976, offers basically the same curriculum as OCC, although it does not have a campus. Classes are held in a variety of locations in and near Costa Mesa. Enrollments have decreased from approximately 20,000 in the late 1970's to 14,960 in the Fall of 1987. The decline may be attributed to both a general decrease in college-aged students and State budget cuts which decreased the number of courses available for college credit. Since the mid-1970's, all three colleges have offered TV courses for credit.

Future Growth

Future residential growth anticipated by the General Plan will result in a commensurate increase in the City's student population. This growth in the student population will likely result in the reopening of existing schools that are now closed. New additional school sites are not anticipated to be needed.

It is therefore important for the City to coordinate with NMUSD regarding the future use of closed school sites. The Land Use Map indicates all public school sites as Public and Semi-Public Use and the school sites are correspondingly zoned I & R-S (Institutional and Recreational Schools).

CHILD CARE

According to the 1990 U.S. Census, Costa Mesa had 6,700 residents under the age of five years, as compared to 5,165 in 1980. The Newport-Mesa Unified School District has set five as the minimum age for entering kindergarten. For those families where both parents work and have a child under five years of age, child care is a necessity. Child care is also needed for children older than five who require supervision before and after school. Both private and public organizations, including the City of Costa Mesa, have recognized the increasing need for child care in today's society.

In 1984, Ordinance 84-24 was adopted by the City Council to add small family day care homes (6 or fewer children) to the list of permitted uses in residential zones. A Development Review is required for 7 to 12 children and a Conditional Use Permit is required for a facility caring for over 12. Amending Title 13 of the Municipal Code was in response to legislation passed in 1983 pertaining to the California Health and Safety Code.

In July 1985, the City Council appointed a Child Care Committee to make recommendations to the Council on matters, policies, and other services of special concern in the field of child care. The Committee distributed questionnaires to all licensed child care facilities in Costa Mesa and sent a survey to parents in the City to determine whether the child care needs of residents were being adequately met. In addition, all the Orange County cities were contacted to establish their level of child care involvement.

As of August 1986, the Committee had identified 60 child care providers located in Costa Mesa, with a combined capacity to serve 3,025 children. The majority of providers prefer to serve children up to five years of age, although seven providers indicated a desire to serve older children. The Committee's Citizen Survey indicated that 35% of the respondents have children 5 to 9 years of age, and 31% have children 2 to 4 years of age. The survey also identified that 70% of the respondents need facilities that offer care from 7:00 a.m. to sometime after 5:00 p.m. Moreover, 51% of the respondents reported having at least one child that needs child care.

The need for child care is not isolated to Costa Mesa, but is a County, State, and national problem. In April 1986, the United Way released a report called "Orange County Needs Assessment", which projected a 26% increase in children aged 2 - 5 from 1980 to 1988. In response to current and projected child care needs, Costa Mesa is directly involved in the following activities.

The Community Services Department conducts three child care programs. A preschool enrichment program for youngsters 3 to 5 years of age is conducted at the Balearic Community Center. Secondly, a program called "Tiny Tot Co-Op" for children 2-1/2 to 5 years of age is held in twelve week sessions at Wakeham Park. This class is a cooperative program that requires each parent to assist one day each week. Lastly, the Department conducts a day camp, "Camp Costa Mesa", during the summer for several weeks at TeWinkle Park.

"Child's Pace" is a privately operated program which provides elementary school aged children with care before and after school. Conducted at the Downtown Community Center, Child's-Pace pays a low monthly rental fee to the City and receives State aid to complete daily operational costs.

Orange Coast College operates a children's center on the campus during week days for children 6 months to 6 years of age. The City

has granted General Revenue Sharing Funds to the program for the purchase of equipment and supplies in the past years.

In October 1986, the Child Care Committee presented six recommendations to the City Council:

1. Recognize and provide support for the Child Care Network (a group of local providers) for the education and coalition of child care providers in the City;
2. Establish a resource book of all child care providers in the City;
3. Reactivate after-school recreational programs at selected sites modeled after the City's previous program offered through the Community Services Department;
4. Establish a permanent Child Care Advisory Committee to foster and encourage quality child care services in the City'
5. Create a mechanism for encouraging development of infant/toddler care;
6. Address the child care needs of low to moderate income parents.

The City Council adopted all the recommendations of the Committee and implementation of the recommendations has begun. An advisory committee has been established, and Bear Street School now serves as a preschool with extended day care for approximately 200 children. The implementation of the remaining policies is presently in progress.

GOALS, OBJECTIVES AND POLICIES

The goals, objectives and policies of the Costa Mesa General Plan that address energy, water supply, wastewater, public services, schools, and childcare are as follows:

GOAL I: ENVIRONMENTAL QUALITY AND RESOURCE CONSERVATION

It is the goal of the City of Costa Mesa to provide its citizens with a high quality environment through the development and conservation of resources, including land, water, minerals, wildlife, and vegetation; the protection of areas of unique natural beauty and historical, social, cultural, and scientific interest; the integration of natural features into the man-made environment; and the preservation of open space.

Objective I-D: Work towards the protection and conservation of the City's existing and future water resources recognizing water as a limited resource requiring conservation.

25. Require, as a part of the environmental review procedure, an analysis of major development or redevelopment project impacts on local water supplies and water quality and an analysis of the impact on water capacity, water availability, and water costs.
26. Pursue the use of reclaimed wastewater for the irrigation of all appropriate open space facilities and require new developments and City projects, and encourage existing developments to tie into the reclaimed water system when recommended by the Orange County Water District or Mesa Consolidated Water District.
27. Require proposed development projects to incorporate all interior and exterior water conservation measures required by State law and State and local water agencies. Encourage the implementation of measures recommended by water agencies.
28. Amend the landscape standards to require the use of low flow irrigation systems and native California vegetation and/or other low water demand plants, with evaluation as to their drought resistance, in all proposed development projects.
29. Encourage Mesa Consolidated Water District to offer credits, rebates, or reduced water rates to users of "Green Acres" reclaimed wastewater.
30. Require, when possible, reuse of pumped water from long-term dewatering operations for landscape irrigation or for construction.
31. Cooperate with the Mesa Consolidated Water District and Santa Ana Heights Water Company to advise the citizens of

Costa Mesa of the benefits which can be obtained from the practices of water conservation.

32. Encourage potential private sector uses of reclaimed wastewater in Costa Mesa to use such water for the irrigation of landscaped areas by publicizing the economic and environmental benefits of this action.
33. Direct developers to work with the local water agency when the water agency determines that a project impacts the local water supply system; the water agency may require fees or other financial assessments of developers to finance any required expansion of the water supply system to serve new projects.

Objective I-E: Conserve energy and resources in the development and operation of public and private buildings, facilities, and activities.

34. Establish guidelines for encouraging passive solar design, and require analyses of available energy conservation measures in excess of Title 24 requirements. This shall include considerations such as modified site and building design in conjunction with EIRs and Negative Declarations for all new buildings and subdivisions.
35. Consider effects of buildings over two stories or 30 feet in height on adjacent parcels to ensure minimum interference with solar access in the vicinity of all new developments.
36. Continue the program of replacing mercury vapor and other street lights with high-pressure sodium vapor.
37. Encourage publicity or educational programs to promote "energy consciousness" and disseminate information about conservation techniques.
38. Consider adoption of regulations to require all new heated swimming pools to be equipped with solar heating and encourage retrofitting of existing swimming pools with solar heaters.
39. Encourage active solar systems for either water and/or space heating in all residential, commercial and industrial building designs.
40. Encourage retrofitting of all existing residences with wall and ceiling insulation and water heater insulation.

GOAL III: DEVELOPMENT

It is the goal of the City of Costa Mesa to establish development policies which will create and maintain an aesthetically pleasing

and functional environment and minimize impacts on existing physical and social resources.

Objective III-B: Establish policies, standards, and procedures to improve and maintain the visual image of the City.

125. Improve all gateways to the City with landscaped medians and parkways with entrance signs to provide a positive introduction to Costa Mesa.
126. Encourage homeowners' associations to maintain existing housing tract entrance signs in an attractive manner and encourage the placement of such signs at the entrance of major developments which do not have such identification.
127. Promote linkages between separate neighborhoods through bike trails, pedestrian paths, common medians or parkway landscaping in connecting streets, and other physical improvements as necessary.
128. Develop design standards and guidelines for the placement of street furniture and public street graphics within and adjacent to public rights-of-way.
129. Increase the visual quality of Costa Mesa's streetscapes through the use of linear open space facilities such as landscaped medians, parkways, and building setbacks.
130. Require all new utility connections to be made underground or, where not feasible, to provide for future undergrounding.
131. Underground utility lines in specified Underground Utility Districts.
132. Pursue maximum use of utility company funds and resources in undergrounding existing overhead lines.
133. Develop design standards and guidelines for the placement of art in public places.

GOAL IV: SOCIO-ECONOMIC CONSIDERATIONS

It is the goal of the City of Costa Mesa to respond to the needs of its citizens for housing, public services, community facilities, and safety of persons and property, to the extent possible within budgetary constraints, and when deemed appropriate for local governmental involvement.

Objective IV-A: Ensure availability of adequate community facilities and provision of the highest level of public services

possible, taking into consideration budgetary constraints and effects on the surrounding area.

134. Continue to require smoke detectors to be installed in all existing residential units upon change of ownership and encourage the installation of smoke detectors in all units.
135. Continue to require smoke detectors to be installed in all existing residential units upon addition or alteration in excess of \$1,000 valuation or upon addition of one or more sleeping rooms.
136. Encourage the installation of automatic fire sprinkler systems in all new and existing developments, including new single-family and multi-family dwelling units.
137. Continue to evaluate and implement alternative administrative and management techniques to increase the efficiency and effectiveness of all City programs and services.
138. Cooperate with adjacent cities and other governmental agencies to identify common or overlapping services which can be combined or integrated to reduce costs and maintain or increase the level of service provided to the public.
139. Continue to investigate the use of private firms to deliver services currently performed by the City and contract those services which can be delivered at lower costs without a reduction in the level or quality of service currently provided.
140. Identify and evaluate the cost effectiveness and public benefits of all new programs, services, and facilities prior to approval or implementation.
141. Monitor and evaluate current trends in the local and regional economy which impact local sources of revenues or demands for public expenditures.
142. Encourage and solicit public input in the review and adoption of the annual budget.
143. Ensure adequate notice and time for public review and adoption of the annual budget.
144. Review the procedures for noticing public hearings.
145. Identify and evaluate current administrative and enforcement capabilities before the enactment or imposition of new regulations, to insure that such responsibilities can be effectively and efficiently administered without undue costs to the public.

146. Pursue annexation of certain areas within the City's Sphere of Influence to control development or uses which may be detrimental to the City.
147. Continue to conduct productivity studies to increase the efficiency of the various City departments.
148. Require that special benefit services, programs, or facilities be supported by the users in the form of specified fees or assessments.
149. Make maximum use of citizen committees in studying major areas of policy and/or development commitments.
150. Continue to assess needs to determine the type and level of social services required by Costa Mesa residents, to inventory existing programs and services, and to identify service gaps, overlap, and duplication.
151. Ensure adequate emergency preparedness through updating of the Emergency Services and Disaster Plan, public education, and appropriate staffing.
152. Strongly encourage protection and preservation of existing but underutilized school sites for future recreational, social or educational uses.
153. Encourage development of quality childcare services in the City.
154. Continue to support programs addressing the established needs of senior citizens.
155. Encourage and foster the maintenance and development of Cultural Arts programs and organizations in the community, thereby giving all citizens, regardless of age or income, accessibility to the arts in various forms including dance, theater, music and the visual arts.
156. Set appropriate goals for average nonemergency and emergency response times for police and fire as part of their annual department program budgets. Review the department's ability to meet the stated goals on an annual basis and implement corrective action as appropriate.
157. Develop appropriate methods to determine the cumulative impacts of new development on the Police and Fire Departments' ability to provide service.
158. Prepare and adopt a development impact fee program or similar financing tool to fund additional fire and police personnel, facilities, and equipment as required to meet the demands of additional growth in the City.

159. Require appropriate site and environmental analysis for future fire and police station site locations or for the relocation or closure of existing fire and police facilities.

GOAL VII: LAND USE

It is the goal of the City of Costa Mesa to provide its citizens with a balanced community of residential, commercial, industrial, recreational, and institutional uses to satisfy the needs of the social and economic segments of the population and to retain the residential character of the City; to meet the competing demands for alternative developments within each land use classification within reasonable land use intensity limits; and, to ensure the long term viability and productivity of the community's natural and man-made environments.

Objective VII-D: Ensure consideration of utility system capacities in land use planning and development processes.

251. Include an evaluation of impacts on utility systems and infrastructure in EIRs for all major General Plan amendment, rezone, and development applications.
252. Phase or restrict future development of the City to that which can be accommodated by infrastructure, existing or planned to exist, at the time of completion of each phase of a multi-phased project.
253. Require developers to pay appropriate impact fees to the Costa Mesa Sanitary District and Orange County Sanitation Districts to fund the cost of any necessary improvements to the sewage collection and treatment system.
254. Require developers, when necessary, to coordinate with the Costa Mesa Sanitary District and the Orange County Sanitation Districts to determine flow reduction techniques to be incorporated into their project designs.

REFERENCES

1. 1990 Master Plan, Mesa Consolidated Water District, May 1990
2. 1988 Water System Master Plan Update, Santa Ana Heights Water Company, October 1988
3. Costa Mesa General Plan Update Air Quality and Noise Analysis, Endo Engineering, May 1991
4. Conservation Report, California Energy Commission, October 1986
5. Local Energy Planning Handbook, California Energy Commission, November 1981
6. Multihazard Function Emergency Plan, City of Costa Mesa, May 1991
7. Persons and Organizations consulted:

Vince Whelan, Director, Department of Communications
Costa Mesa Police Department
Costa Mesa Fire Department
Orange County Public Library
Newport Mesa Unified School District
Mesa Consolidated Water District
Costa Mesa Sanitary District
Santa Ana Heights Water Company
County Sanitation Districts of Orange County
Southern California Edison Company
Southern California Gas Company

Waste Management

WASTE MANAGEMENT

This subelement discusses hazardous waste and solid waste management. Although the management of these types of wastes have typically not been the responsibility of cities, recent State legislature has mandated a city role in the waste stream management.

HAZARDOUS WASTES

The management of hazardous wastes generated by our highly technological society has become one of the leading environmental concerns of the 1980's.

The following discussions on the Characteristics of Hazardous Waste and Waste Management Processes and Facilities are excerpted from the County of Orange Hazardous Waste Management Plan.

Characteristics of Hazardous Wastes

Hazardous waste is any waste material that has the potential to damage human health or the environment. Hazardous wastes include hundreds of different substances, and occur in different forms - solids, liquids, gases, and sludges.

Most hazardous wastes are either chemical components of goods, or are by-products of the manufacture of goods or delivery of services. Hazardous wastes are generated by processes as complex as those in petrochemical plants or as common as those of dry cleaners. Sources include industry and manufacturing, agriculture, hospitals, laboratories, schools, households and automotive maintenance, and clean-up of previous waste disposal sites.

Hazardous wastes may be toxic, corrosive, reactive and/or flammable. The risk posed by a particular waste depends on its chemical composition, physical state, concentration, and availability for exposure to people and the environment, including water, land, air, wildlife and vegetation.

Waste Management Processes and Facilities

Historically, the majority of hazardous waste generated in Orange County has been disposed of directly in off-site land disposal facilities without pretreatment to detoxify. Currently there are no land disposal facilities that accept hazardous waste in Orange County or Southern California, and much of it is transported to the nearest sites in Santa Barbara and Kings counties. Federal and State statutes will prohibit the land disposal of most untreated hazardous wastes after May 8, 1990.

Technical processes for treating hazardous wastes have the advantage of physically or chemically altering the wastes to eliminate or diminish their hazardous properties, and often reduce their volumes as well, resulting in a residual product which can be

more safely disposed of to the environment. The basic categories of waste treatment are physical, chemical, biological and thermal (incineration).

Where possible, it is preferable for hazardous waste to be reduced or treated on-site at the industrial facilities. Many of these treatment processes can be incorporated into industrial processes on-site to reduce the volume and toxicity of wastes produced. Some industrial processes can be altered to recycle materials so that hazardous by-products are reduced or eliminated.

The basic types of off-site facilities which may be used in managing hazardous waste include:

- Transfer and Storage Facilities
- Recycling Facilities
- Treatment Facilities
- Solidification and Stabilization Facilities
- Incineration Facilities
- Residuals Repositories

Hazardous Waste Management

In response to the growing Statewide concern of hazardous waste management, State Assembly Bill 2948 (Tanner 1986) enacted legislation authorizing local governments to develop comprehensive hazardous waste management plans. The intent of each plan is to assure that adequate treatment and disposal capacity is available to manage the hazardous wastes generated within its jurisdiction.

The Orange County Board of Supervisors in February 1987 (Resolution No. 87-221), authorized the preparation of the Orange County Hazardous Waste Management Plan. The final plan was adopted in January 1989 and subsequently amended in 1991. The City of Costa Mesa subsequently approved the County Plan in 1989 and the amendment in 1991. The State Department of Health Services approved the County's Plan in late 1991.

Orange County Hazardous Waste Management Plan

The Orange County Hazardous Waste Management Plan provides policy direction and action programs to address current and future hazardous waste management issues that require local responsibility and involvement in Orange County. In addition, the Plan discusses hazardous waste issues, and analyzes current and future hazardous waste generation in the County.

One of the underlying premises of the County Plan is the "fair share" allocation of hazardous waste facilities in the Southern California Region. The County of Orange has joined with the counties of Imperial, Riverside, San Bernardino, San Diego, Ventura, and Santa Barbara, and the cities of Los Angeles and San Diego to form the Southern California Hazardous Waste Management Authority through a joint powers agreement.

The purpose of the Authority is to coordinate local implementation of a regional action program to effect comprehensive hazardous waste management throughout Southern California. The action program focuses on the development of programs to equitably site needed hazardous waste management facilities; to promote on-site resource reduction, treatment and recycling; and to provide for the collection and treatment needs of small quantity hazardous waste generators.

The Authority developed and adopted the "fair share" principle as the guiding regional policy basis for facility siting in Southern California. Under the fair share principle, member jurisdictions have agreed that every city and county in the region will accept responsibility for the management of hazardous wastes in an amount proportional to the hazardous wastes generated within the city or county. Responsibility is met by siting facilities and through agreements with other jurisdictions that site facilities. In general, counties generating larger quantities of hazardous waste are responsible for siting larger numbers and types of hazardous waste facilities, and counties generating less hazardous waste are responsible for siting fewer facilities. Under this agreement, actual siting decisions continue to be vested in local governments. This policy is consistent with the intent and objectives of the Tanner legislation, which established that each county is responsible for handling its own hazardous waste burden. However, by sizing facilities for regional need and sharing between counties, a fewer overall number of facilities will be needed in Southern California.

The County's Hazardous Waste Management Plan has reiterated and supports the Authority's fair share concept. A key program in the Hazardous Waste Management Plan is Program A-1. Regional Hazardous Waste Management Planning; this program supports the continued participation in the Authority's efforts to provide comprehensive hazardous waste management planning a regional basis. Should this program be successfully implemented, Orange County would site a number of facilities proportional to the amount of waste generated within Orange County and enter into inter-agency agreements with other counties concerning sharing of regional facilities.

The County Plan also established numerous siting criteria for hazardous waste facilities. The intent of the criteria is to assist in the siting of facilities by identifying appropriate location requirements. The preparation of a Health and Safety Assessment is also required; the intent of which is to demonstrate compliance with the various siting criteria.

The responsible management of hazardous wastes is a State, regional and local concern. To effectively resolve present concerns and plan for the future requires the coordinated effort of State and local governments, the public and private industry. The intent of the Tanner legislation is to provide a more expeditious method for siting and permitting needed hazardous waste management facilities that are environmentally sound and meet the needs of the area.

The Tanner legislation also requires improved programs of waste source reduction and recycling, and encouraging on-site treatment of hazardous wastes, as preferable to the siting of new land disposal facilities.

An important component of the County Hazardous Waste Management Plan will be the monitoring of hazardous waste management facilities to ensure compliance with Federal and State hazardous waste regulations. The siting criteria and any subsequent environmental documentation required pursuant to CEQA will also ensure the mitigation of adverse impacts associated with the siting of any new hazardous waste facility.

Incidents involving hazardous materials have the potential of being very costly to the City in terms of risk, liability and potential of loss of life and property. All City firefighters are trained to the hazardous materials responder (awareness) level, but the City does not have the capability to handle incidents of a major nature. Rather, the City contracts with the Orange County - City Hazardous Materials Emergency Response Authority for response to major hazardous materials emergencies.

Household Hazardous Waste

Household hazardous waste (HHW) is a unique waste stream in that it overlaps the distinction between solid waste and hazardous waste. State law requires programs to address HHW as part of both the Integrated Solid Waste Management Act (AB 939 and AB 2707) and the Tanner hazardous waste management planning legislation (AB 2948), discussed previously. Although Federal law exempts HHW from regulation, California law does not include a small quantity exemption and requires proper disposal of all materials classified as hazardous. These requirements, however, are not vigorously enforced for HHW because of the difficulty and expense of managing such dispersed generation sources. Programs and collection facilities to encourage voluntary compliance with the law are being implemented in Orange County. These programs are expensive and are not yet an institutionalized part of solid waste and hazardous waste management. In addition, limited public awareness still results in HHW being disposed of illegally in solid waste landfills and into storm and sanitary sewers. The potential effect of this illegal disposal is contamination of soil, groundwater, and surface water in Orange County. The County of Orange has been the primary agency responsible for the collection and disposal of hazardous waste.

(1) Definition of Household Hazardous Waste

Household hazardous waste includes consumer products that meet the definition of hazardous waste in Section 25117 of the California Health and Safety Code or satisfy the criteria listed in Title 22, Section 66693 of the California Administrative Code (ignitable, poisonous, corrosive, reactive). Other specific relevant categories include:

- Wastes that contain any identified hazardous substance or pollutant that may have an adverse effect on the beneficial uses of waters of the State.
- Wastes that contain an identified substance that is carcinogenic, mutagenic or teratogenic in humans or animals.
- Waste identified as hazardous when released into the air.

Typical HHW materials include paints, motor oil, car batteries, caustic or acidic household products, pesticides, flammable polishes and cleaners, and aerosols.

(2) Household Hazardous Waste Program

The County of Orange selected permanent HHW collection facilities as the most appropriate method for managing this waste category. Four to six permanent collection facilities were approved by the Board of Supervisors in 1989: one at each of the two landfills that take self-haul solid waste from County residents (Prima Deshecha and Olinda-Alpha); one each at three transfer stations/recycling centers in Anaheim, Huntington Beach, and Stanton; and a sixth at a yet to be decided on location, possibly in Irvine. The Anaheim facility opened in July 1990 and the Huntington Beach facility opened in early 1991. The HHW facility at the Prima Deshecha landfill opened in August 1991. The Irvine facility may be postponed until 1992, pending approval of an appropriate site. In January 1991, the County deferred indefinitely the opening of the Stanton and Olinda landfill collection stations.

Monitoring, recycling and public education will also be included in the County's program. Beginning in early to mid-1991, the hauler of loads discovered to contain more than five gallons or 50 pounds of hazardous waste, as part of the County's load checking program, will be required to manifest the hazardous waste and have it removed by a licensed hazardous waste disposal firm. Door-to-door and fee-for-service collection programs will be investigated further for possible implementation at a later date.

The initial phase of Orange County's permanent collection facility program has been well received by County residents, as indicated by the dramatic increase in participation during the first month of operation at the Anaheim facility. The benefits of the permanent collection site program include:

- Greater convenience for County residents than periodic events.
- Greater control over safety and environmental protection than at periodic events or mobile facilities.
- Less expensive (staff, equipment, liability insurance) than large-scale curbside or door-to-door collections.

- Greater incentive to participate than fee-for-service programs.

The City of Costa Mesa supports the County's choice for these HHW programs and will monitor participation of City households. If participation rates are low, the City will intensify efforts to increase public awareness and participation.

SOLID WASTE

The feasibility of waste recycling programs depends to a large extent on the composition of discarded wastes - the ratio of usable to unusable materials. Table 48 indicates the approximate composition of solid wastes generated in the City. The materials most commonly collected for recycling are newspaper, glass, and metals. These items constitute about 24 percent of the municipal refuse in Orange County. The addition of cardboard and other types of paper would classify approximately 50 percent of all waste materials as recyclable.

Solid Waste Management Alternatives

Solid waste management is another of the many areas in which the City has jurisdiction to treat only the symptoms. The cause of the problem must be attacked through changed practices in manufacturing and packaging and through more efficient use of resources and materials to reduce the volume of waste produced. However, as generation of some amount of solid waste is inevitable, the next best solution to the disposal problem is recycling.

The key to a successful recycling program is an efficient system of material separation and collection. This can be handled in three basic ways: deposit of separated recyclables at collection stations, curb-side pick-up of separated materials, or post-collection separation at a materials recovery plant. The use of collection stations, though the most common system presently in use, requires extra effort on the part of individuals to transport, as well as separate, their own recyclables. Separation for curb-side pick-up is enjoying limited success in some areas, but still requires individuals to make the effort of presorting their own trash. Separation after trash collection is the only method that does not rely on the participation of individuals in separating their own discards. However, it does require local agency investment to either construct and operate a recovery plant or contract with an independent company.

Solid waste products can also act as a source of energy through any of several processes. Heat recovery incineration plants burn shredded refuse (after removal of ferrous metals) in incinerators with water-filled walls to produce steam which can be used for industrial processes. The steam user must be located within approximately one mile of the incineration plant. About 27 percent of the original volume of refuse remains after incineration.

TABLE 48

ESTIMATED COMPOSITION OF RESIDENTIAL AND COMMERCIAL/INDUSTRIAL
SOLID WASTE GENERATION IN COSTA MESA - 1990

<u>Waste Category</u>	<u>Residential (Tons)</u>	<u>Commercial (Tons)</u>	<u>Industrial (Tons)</u>
Corrugated	1,785	15,500	3,146
Newspaper	5,370	5,510	15,808
Highgrade Paper	18	2,892	212
Mixed Waste Paper	3,692	10,108	1,272
Other Paper	2,529	4,985	1,313
Aluminum Cans	307	206	15
Tin Cans	597	264	125
Ferrous Metals	573	1,237	2,552
Nonferrous Alum Scrap	146	90	179
Bi-Metal	0	4	24
CA Redemption Bottle	1,078	1,546	151
Other Nonrecyclable Glass	36	872	145
Other Recyclable Glass	1,133	622	62
Refillable Glass Beverage	0	0	0
HDPE	690	717	511
LDPE	452	735	562
PET	85	132	45
Polypropylene	54	31	15
Polystyrene	337	546	161
PVC	55	92	42
Other Plastics	781	1,150	3,417
Yard Waste - Shrubby	2,889	2,089	1,995
Yard Waste - Leafy	3,520	5,755	777
Wood Waste	1,148	12,000	8,101
Manure	276	131	0
Agricultural Crop Resid.	0	0	0
Food Waste	3,307	1,339	725
Textiles	614	458	261
Leather	0	13	0
Household Hazard Waste	176	416	1,138
Inert Solids	295	4,108	8,275
Diapers	1,433	493	59
Tires and Rubber	518	387	169
White Goods	80	1,576	164
Remainder	<u>1,903</u>	<u>2,500</u>	<u>3,924</u>
Totals:	35,877	78,504	55,345

A facility combining materials recovery and a capacity to produce refuse derived fuel (RDF) can remove all but about 26 percent of the material that would otherwise be deposited in a landfill. Materials recovery involves separation of metals, glass, and some types of paper. Remaining paper materials are converted to RDF, which can be burned as a supplementary low sulfur fuel in suitable furnaces or boilers. RDF produces more air pollution than natural gas but less than fuel oil. The producing and consuming facilities should be within a few hundred yards of each other so transportation of the fuel will not negatively impact traffic and cost.

A process called pyrolysis, when combined with materials recovery, can reduce waste to about 23 percent of its original volume. Pyrolysis involves the decomposition of organic materials to produce a synthetic fuel oil having about 60 percent of the heating

value of petroleum fuel oil. One ton of waste produces about 2 barrels of oil. Theoretically, if all the refuse generated in Costa Mesa in 1978 were pyrolyzed, over 140,000 barrels of synthetic fuel oil could have been produced, with an equivalent heating value of 84,000 barrels of petroleum fuel oil - enough to heat nearly 7,000 homes. In practice, however, operational problems have caused some experts to question the reliability of the process.

Recent Solid Waste Management Legislation

The issue of solid waste and its disposal has been one of the foremost environmental issues in recent years due to the shrinking capacity in the State's landfills and the difficulties in siting new ones. In response to these concerns, the California Integrated Waste Management Act was passed into law in 1989 (commonly referred to as AB 939). This comprehensive law is designed to share the responsibility of solid waste management between the State, County and local governments. This law also replaces the County Solid Waste Management Plan with the Countywide Integrated Waste Management Plan.

One of the key components of the law is that every city in the State is required to prepare and adopt a Source Reduction and Recycling Element by January 1, 1992. A key goal of these elements will be the diversion of 25% of the waste stream from the landfills or incinerators by 1995. This is to be accomplished through either source reduction, recycling and/or composting.

The City of Costa Mesa has already begun efforts to minimize its waste stream. In 1989, the Costa Mesa Sanitary District (CMSD), contracted with a service which will provide for the recycling of reclaimable materials from the solid waste collected from single-family residences within the CMSD. This materials recovery plan relieves the burden to the resident to separate recyclable materials at the curbside.

Under this program, the solid waste material is collected in the usual manner by the contracted trash hauler and delivered to the transfer station in Stanton where all materials which have a proven market are being recovered. Included at this time are newspapers, cardboard, mixed paper, glass, ferrous metals, aluminum, and PET/HDPE. Other materials will be included as markets are established. Presently, the recyclables are being manually removed by a special work force. However, the contractor is in the process of remodeling their facility to accommodate a state-of-the-art automatic sorting equipment which will guarantee a 25 percent waste diversion.

The City will also explore other alternatives for recycling wastes from multiple unit residential projects and commercial and industrial developments as part of its preparation and adoption of its Source Reduction and Recycling Element.

GOALS, OBJECTIVES AND POLICIES

The following goals, objectives and policies of the General Plan address waste management concerns:

GOAL I: ENVIRONMENTAL QUALITY AND RESOURCE CONSERVATION

It is the goal of the City of Costa Mesa to provide its citizens with a high quality environment through the development and conservation of resources, including land, water, minerals, wildlife, and vegetation; the protection of areas of unique natural beauty and historical, social, cultural, and scientific interest; the integration of natural features into the man-made environment; and the preservation of open space.

Objective I-E: Conserve energy and resources in the development and operation of public and private buildings, facilities, and activities.

41. Prohibit the use of land for solid waste disposal dump sites in Costa Mesa and work towards the prohibition of contiguous areas for dump sites where there is possible ground water contamination.
42. Prepare and adopt a Source Reduction and Recycling Element that is consistent with the goals of the California Integrated Waste Management Act of 1989.

GOAL II: ENVIRONMENTAL PROTECTION AND PRESERVATION

It is the goal of the City of Costa Mesa to protect its citizens and property from injury, damage, or destruction from environmental hazards, including hydrologic, geologic, and climatic episodes, and to work towards the improved noise abatement and improved air and water quality.

Objective II-D: Participate in the safe, efficient and responsible management of hazardous waste materials.

106. Enact appropriate ordinances that address the siting of hazardous waste facilities in the City that are consistent with the intent of the Orange County Hazardous Waste Management Plan; the siting criteria shall include standards and requirements that ensure the protection of the community and environment from potential negative impacts from hazardous waste facilities.
107. Participate with the County of Orange in the implementation of the Orange County Hazardous Waste Management Plan.
108. Ensure that appropriate in-depth environmental analyses are conducted for any proposed hazardous waste materials treatment, transfer, and/or disposal facility.

109. Prepare a Household Hazardous Waste Element in conformance with State law. Provide community education on the types and uses of household hazardous wastes and their proper disposal (including how to reduce the use of hazardous household materials, and where and how to dispose of hazardous household materials); and distribute information on local collection sites.
110. Continue to work with the County of Orange to identify and inventory all users of hazardous materials and all hazardous waste generators and prepare clean-up action plans for identified disposal sites.

REFERENCES

1. Guidelines for Siting Specified Hazardous Waste Facilities Under AB 2948, Office of Planning and Research, 1987.
2. Draft Orange County Hazardous Waste Management Plan, County of Orange, 1991.
3. Southern California Hazardous Waste Management Plan, Regional Plan, Southern California Hazardous Waste Management Authority, 1989.
4. Orange County Solid Waste Management Plan, County of Orange General Services Agency, April 1989.

Transportation

TRANSPORTATION

One of the many difficult tasks for government is to provide for the safe and efficient transportation of citizens from one place to another, whether it be across town or across the country. To ensure that adequate consideration is given to this issue on a local level, the California Government Code Section 65302(b) requires inclusion of a circulation element in all City and County General Plans. The element is intended to discuss "the general location and extent of existing and proposed major thoroughfares, transportation routes, terminals, and other local public utilities and facilities, all correlated to the Land Use Element.

The word "Transportation" has been used as the circulation element heading to show that concerns with the mode and management of travel as well as routes, are of equal importance. A thorough discussion of transportation and circulation includes analysis of the movement of people and goods on land, on the water, and through the air; in public and private vehicles, motorized and nonmotorized; and on foot.

The public utilities and facilities portion of the circulation element requirements are addressed in the Public Facilities and Services Subelement of the Community Development/Management Element.

Definitions pertinent to this section are as follows:

Trip. The trip is the basic measurement used to describe transportation volumes. A trip consists of one unit traveling from one point to another. The unit may be vehicles, persons, or passengers. Vehicle trips describe the number of vehicles traveling from point to point. Person trips indicate the number of people, and are of interest in situations where there may be opportunities to accomplish more one person trips with less vehicle trips - such as a carpool. Passenger trips relate to the volume of passenger service provided by public transportation - such as buses, trains, and aircraft.

Trip End. Every trip has two ends - an origin and a destination. Conversely, every origin or destination generates two trip ends - one arriving and one leaving. For example, traveling from home to work and back involves two trips - home to work and work to home, and four trip ends - home as the origin and work as the destination, and then work as the origin and home as the destination. Quantification of trip ends is useful in describing the contribution of specific land uses to traffic volumes.

Average Daily Traffic. (ADT) is the number of vehicles (trips) passing a given point in a typical 24-hour period. This is the most commonly used descriptor of traffic volumes.

Level of Service. (LOS) is a qualitative measure that incorporates the collective factors of speed, travel time, traffic interruptions, freedom to maneuver, safety, driving comfort and con-

venience, and operating costs provided by a highway facility under a particular volume condition. LOS A indicates best/free flow conditions; LOS C represents a zone of stable flow and is considered average operation; LOS D is often used as the design service level for intersection peak period operations, as the cost of providing higher service levels during peak periods can be prohibitive. LOS E represents maximum physical carrying capacity; and LOS F indicates system failure.

Peak Hour or Peak Period. Traffic volumes are not constant throughout the day. Peak hours are the times during which volumes are significantly higher than others. Most areas have two peak hours - morning while people travel to work and late afternoon or evening as they leave work and return home. In some cases a third, though usually smaller, peak occurs during the middle of the day. As development intensifies and traffic volumes increase, the durations of the peaks are extended until eventually the peak hour becomes a peak period which may last for two or three hours. Peak period volumes are important as these are the times of day when the most severe congestion occurs, and intersections must be designed to accommodate these volumes if smooth traffic flow is to be maintained.

Transportation in and through Costa Mesa is primarily by private vehicle on streets and freeways. Some trips are made on public transportation such as buses and taxis, some are made by air from the adjacent John Wayne Airport, and a few north side industries are served by rail. Nonmotorized trips are made by bicycle, skateboard and on foot. Although equestrian facilities are available at the Orange County Fairgrounds, such activities are primarily limited to the premises of the Fairgrounds and, as such, do not become part of the City's transportation network.

REGIONAL TRANSPORTATION PLANNING FRAMEWORK

The Southern California Association of Government (SCAG) is the Federal and State designated regional transportation planning agency for the area encompassing Orange, Los Angeles, Riverside, San Bernardino, Imperial, and Ventura Counties. Various Federal and State requirements mandate preparation of a Regional Transportation Plan (RTP). SCAG adopted an RTP in 1978, which was revised in 1989. The Plan sets forth a number of goals which are aimed at development of a comprehensive transportation system incorporating all modes of travel for the efficient and economic movement of goods and people. The plan also encourages development patterns which will provide balanced communities and reduce the need for long distance commuting.

The most important transportation planning and funding agency for Orange County is the Orange County Transportation Commission (OCTC). This agency prepares and adopts the 7-year transportation program through which all Federal and State funding for transportation projects is allocated.

LOCAL STREETS AND HIGHWAYS

The major share of transportation affecting the City of Costa Mesa occurs on the streets and freeways running through or adjacent to the City. Excluding freight and delivery vehicles, approximately 96.6 percent of the total person-trips and 90 percent of the peak hour trips in the Southern California region are made in private automobiles.

Highways

The Master Plan of Highways is shown in Figure 51. Costa Mesa's circulation system is greatly affected by three freeways: Route 55 (Costa Mesa Freeway), Route 73 (Corona del Mar Freeway), and Route 405 (San Diego Freeway). Route 405 carries the largest volumes (over 200,000 ADT) and is completed from its origin at the intersection with Route 5 near El Toro to its terminus in the San Fernando Valley, where it rejoins Route 5. Route 73 originates at an interchange with Route 405 near Fairview Road and has been completed to MacArthur Boulevard in Irvine. Construction of the San Joaquin Hills Corridor, which is planned to extend into South Orange County, will connect to Route 73 at MacArthur Boulevard.

The Costa Mesa Freeway has been a subject of controversy for many years. Originally adopted in 1944, the freeway was to have followed the present alignment of Newport Boulevard. In 1969, the adopted route was modified to travel west of Costa Mesa's traditional downtown from a point just south of Bay Street to the Pacific Coast Freeway (Route 1). When the Route 1 Freeway plans were abandoned in 1975, an alternate terminus was proposed, but not adopted, which would reconnect the Route 55 Freeway with Newport Boulevard in the vicinity of 15th Street. Although excavations were made for the depressed portion of the freeway as far south as 23rd Street, construction was halted just south of Bristol Street. In 1982, the City endorsed an easterly alignment for the Route 55 Freeway between 19th and 15th Streets. Environmental documentation was completed in 1984. This alignment is indicated on the City's Master Plan of Highways. Extension of the freeway to 19th Street, which began in the Spring of 1989, is expected to be completed in the Summer of 1992. The date for construction of the freeway between 19th and 15th Streets is uncertain, but is anticipated to be in the late 1990's.

Circulation Patterns

Crosstown circulation is constricted by several features of the street system. One problem relates to the alignment of Newport Boulevard. In accordance with subdivision patterns created in the late 1880's, streets east of and including Newport Boulevard were laid out at approximately 45-degree angles from the traditional north/south streets in north Orange County. The results are odd-angled intersections with cross-streets and high traffic volumes where north/south streets, like Harbor Boulevard, merge with Newport Boulevard.

Because of the angle of intersection, many streets east of Newport Boulevard do not align with their westerly extensions. For instance, West 18th Street becomes Rochester Street upon crossing

Newport Boulevard. Free circulation is hampered by the fact that Rochester Street cul-de-sacs just east of Orange Avenue. East 18th Street, which extends uninterrupted to Irvine Avenue, is a full block north of Rochester Street.

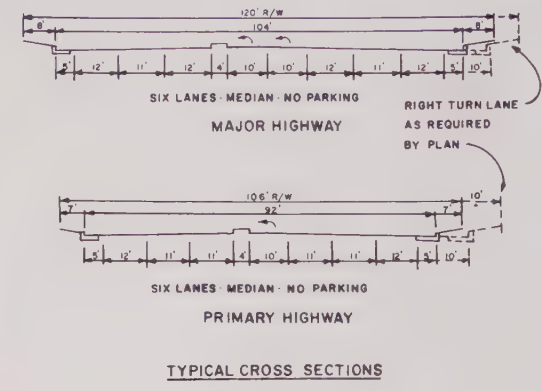
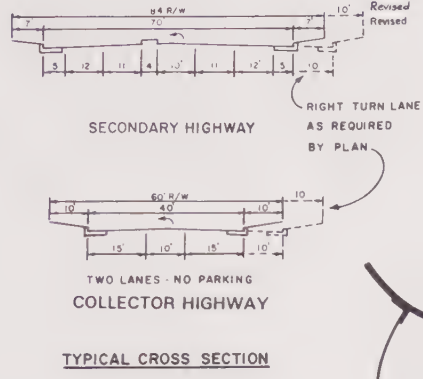
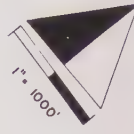
Several major east/west arterials are interrupted by obstacles other than Newport Boulevard. The most notable examples are Adams Avenue, which transitions into a residential neighborhood east of Fairview Road, and Baker Street, which similarly terminates in the Mesa Verde tract west of Harbor Boulevard. The results are inordinately high turning movements and traffic volumes between Adams and Baker on Harbor Boulevard and Fairview Road. Proceeding west from Irvine Avenue, University Drive becomes Del Mar Avenue as it enters Costa Mesa, undergoes another name change to Fair Drive as it crosses Newport Boulevard, and terminates at its intersection with Harbor Boulevard. Westbound traffic is required to turn onto Harbor Boulevard before proceeding west on Adams, Wilson, or Victoria. Another contributor to east/west circulation problems is the fact that none of the major streets have been completed to their ultimate planned widths. Improvement of these streets to ultimate Master Plan width is controversial because of the property acquisition and relocation impacts associated with the widenings. Because many of these improvements impact residential neighborhoods, the City Council has expressed interest in reviewing alternatives to major street widenings, especially those east of Newport Boulevard.

Santa Ana River crossings exist at the western City limit at MacArthur Boulevard, I-405, Adams Avenue, and Victoria Street. The extension of 19th Street and Gisler Avenue across the Santa Ana River are shown on the City's Master Plan of Highways. However, the new extensions have generated considerable public opposition because of traffic and environmental impacts. The City Council has initiated cooperative studies with the County of Orange and the adjacent cities of Huntington Beach, Newport Beach and Fountain Valley to investigate alternatives to the bridge construction.

For northbound and southbound traffic, the major problem is simply limited routes. The San Diego Freeway is bridged in only four places between the Santa Ana River and the Costa Mesa Freeway: Harbor Boulevard, Fairview Road, Bear Street, and Bristol Street. In addition to the 405 Freeway, north/south routes are limited by existing development, such as the Mesa del Mar tract east of Fairview Road and the golf course and Fairview Development Center west of Harbor Boulevard.

Costa Mesa streets carry large volumes of through traffic - trips neither originating nor terminating within the City. Data from the General Plan Traffic Analysis indicates that approximately 40% of all trips on City streets are "through" trips which have neither origin or destination within the City. The primary direction of this travel is north/south, going between Newport Beach and Santa Ana. The bulk of these trips is carried on Newport Boulevard, Harbor Boulevard, and Bristol Street. Some through traffic also originates in the Huntington Beach/Fountain Valley area, and travels to Newport Beach or Irvine.

ACTION	PLANNING COMMISSION	COUNCIL
Adopted	Res. 52 Nov. 12, 1963	Res. 63-115 Dec 2, 1963
Revised	Res. 56 Aug 10, 1964	Res. 64-91 Sept 10, 1964
Revised	Res. R4-68 Sept 23, 1968	Res. 68-70 Oct 21, 1968
Revised	Res. R71-02 Nov 11, 1971	Res. 71-77 Oct 18, 1971
Revised	Minute Resolution May 12, 1975	Res. 75-63 June 3, 1975
Revised	Res. PC-76-20 Oct 11, 76	Res. 76-143 Nov 15, 1976
Revised	Res. PC-76-21 Oct 11, 76	Res. 76-144 Nov 15, 1976
Revised	Res. GP-77-2C June 13, 77	Res. 77-83 July 5, 1977
Revised	Res. GP-77-2 June 13, 77	Res. 77-84 July 9, 1977
Revised	Minute Resolution Nov 27, 78	Res. 78-123 Dec 18, 1978
Revised	Res. PC-79-1A Oct 8, 79	Res. 79-175 Nov 19, 1979
Revised	Res. GP-83-3C Oct 3, 83	Res. 83-112 Nov 21, 1983
Revised	Res. GP-85-2B June 24, 85	Res. 85-86 Sept 16, 1985
Revised	Res. GP-89-1B Jan 9, 89	Res. 89-18 Feb 6, 1989



TYPICAL CROSS SECTION

TYPICAL CROSS SECTIONS



- LEGEND**
- FREEWAY
 - MAJOR (120' R/W)
 - PRIMARY (106' R/W)
 - SECONDARY (64' R/W)
 - COLLECTOR (60' R/W)
 - RIGHT TURN LANE

CITY OF COSTA MESA, CALIFORNIA

MASTER PLAN OF HIGHWAYS

AMENDED
RESOLUTION

FIGURE 51



While completion of the Costa Mesa Freeway has the greatest potential to improve local traffic conditions, selected widening of arterial highways are also required to complete the city's ultimate circulation system.



Another facility which, if built, would impact traffic circulation in Costa Mesa is the Route 57 (Orange) Freeway extension. With its southern terminus currently at the Santa Ana Freeway in north Santa Ana, the State Highway Plan shows the alignment for Route 57 extending south along the Santa Ana River to the coast. Orange County studies have forecast the Orange Freeway extension south to the San Diego (405) Freeway as a valuable link between the north and south ends of the County. It could then connect to the Corona del Mar (73) Freeway. However, there is no adopted alignment and due to right-of-way costs, construction of the extension would be very expensive. Additionally, the City Council has taken a stand to oppose extension of Route 57 south of the San Diego Freeway.

The 1988 traffic volume map in Figure 52 displays the two-way traffic volumes for the major elements of Costa Mesa's street system.

The greatest traffic volumes are carried on Newport Boulevard, Harbor Boulevard, and Bristol Street. Peak period congestion occurs where these major streets intersect relatively high volume east/west streets. Congestion on Newport Boulevard is compounded by its intersection with north/south arteries, such as Harbor Boulevard and Fairview Road. Volumes south of these tributary intersections are particularly high.

Traffic on Bristol Street north of the San Diego Freeway is increasing at a high rate due to the intensity of development in the area, including both Costa Mesa and Santa Ana. South Coast Plaza, a 2.4 million square foot regional shopping center on the west side of Bristol Street, generates approximately 61,750 vehicle trips daily. Substantial increases are experienced during the Christmas shopping season. Traffic in and out of the center in December can average over 98,000 trips per day. Crystal Court, located on Bear Street across from South Coast Plaza, generates approximately 18,900 trips per day.

Railroads provide transportation for goods as well as people. The only rail facility in Costa Mesa, however, is approximately 1,000 feet long, running south from Sunflower Avenue to the Los Angeles Times plant on Sunflower. Passenger rail service is available at the Amtrak station located at the Santa Ana Regional Transportation Center in the city of Santa Ana.

Future Traffic Volumes

In evaluating the impacts of future traffic volumes on particular street segments, it is helpful to have some guideline as to the level of traffic that can be accommodated by the various street designations. As a general rule, volumes indicated in Table 49 can be handled by the corresponding street type at level of service (LOS C) with only short delays during peak periods.

EXISTING ADT VOLUMES (IN THOUSANDS)



FIGURE 52



TABLE 49

LEVEL OF SERVICE "C" TRAFFIC VOLUMES FOR STREETS AS DESIGNATED
ON COSTA MESA MASTER PLAN OF HIGHWAYS

<u>DESIGNATION</u>	<u>DESCRIPTION</u>	<u>VOLUME (ADT)</u>
COLLECTOR ¹	2 lanes - undivided - left turn lane - no parking	3,000-5,000
COLLECTOR ²	2 lanes - undivided - left turn lane - no parking	10,000
SECONDARY	4 lanes - divided - left turn lane - no parking	30,000
PRIMARY	6 lanes - divided - left turn lane - no parking	45,000
MAJOR	6 lanes - divided - dual left turn lanes - no parking	50,000

¹ With residential frontage.

² Without residential frontage, signalized at major intersections, no stop signs.

The table provides only a general guideline; individual circumstances may vary depending upon a number of factors. Intersection conditions are the prime determination of capacity. If the volume on a cross-street is lower, the capacity of the main street may be increased by appropriate adjustments in signal timing.

Prediction of future traffic generation is essential in evaluating the adequacy of the circulation system. The ability to estimate the effects of alternative street networks is important in determining appropriate solutions to circulation problems. To accomplish these tasks, a citywide traffic model for the General Plan was developed to analyze the impacts of buildout of the General Plan. For the purposes of the traffic modeling work, the analysis area (which includes all of Costa Mesa and portions of Santa Ana, Newport Beach, and unincorporated Orange County) was divided into 247 traffic analysis zones (TAZs), 176 of which comprise Costa Mesa. This system of traffic zones formed the geographic base for quantifying the land use and demographic data used by the model for producing traffic forecasts. Regional traffic was incorporated from traffic forecasts prepared by the County of Orange.

The General Plan traffic model calculated the number of trips generated based on the land use input for each TAZ. The land use input is based upon existing levels of development in the City and upon projected levels of development based on the maximum buildout potential of every parcel in the City as allowed by the General Plan. Figure 53 indicates expected traffic volumes in post 2010 (i.e., General Plan buildout).

Intersection Operations Analysis

The Costa Mesa General Plan Traffic Model produces average daily traffic volumes and intersection peak hour volumes. The peak hour volumes are used to calculate the Intersection Capacity Utilization (ICU) values, which indicate the existing and future operating levels of the intersections analyzed.

The basic approach of the traffic model is the grouping of the City's intersections into sets which serve certain areas within the City. The traffic model predicts overall service levels in the intersection groups more accurately than at each individual location. Similarly on the actual roadway system, intersections within each group will be available for drivers to optimize their

travel routes. The average ICU for each group of intersections is a measure of the "system performance" for that part of the City's circulation system.

In evaluating system performance under the intersection grouping method, some intersections have considerably less influence on how well the system operates than others. Diversions to minor intersections do little to help overall system capacity if the traffic must still pass through key "bottleneck" intersections. Therefore, the evaluation methodology focuses only on key intersections and disregards minor intersections which do not contribute to actual system capacity.

Figure 54 shows the six intersection groups used in the traffic model. The intersections are divided into two groups, critical and minor. Only the critical intersections are used for calculating the average ICU for each group for if the minor intersections were included, the overall average would be reduced and thus distorted. For evaluating capacity needs and deficiencies, a maximum desirable average ICU value of .90 for each intersection group is used. Table 50 presents ICU values for 1988, and post 2010.

As can be noted from the table, all the intersection groups are forecast to operate at an acceptable service level in post 2010 with all Master Plan of Highways improvements constructed.

TABLE 50
Intersection Groups Operations Comparison

Intersection Group ¹	Existing Average ICU		Post 2010 With Master Plan Improvements Average ICU	
	AM	PM	AM	PM
A	.42	.58	.72	.75
B	.57	.67	.72	.75
C	.64	.76	.81	.80
D	.47	.58	.71	.75
E	.62	.71	.64	.74
F	.56	.68	.66	.70

1. See Figure 54 for location of intersection groups.

A secondary measure must be used when reviewing intersection-specific ICU values, especially in post 2010 conditions. This measure establishes a threshold ICU value of 1.00 before an individual intersection is considered potentially deficient. This measure recognizes the practical reliability limitations of the traffic model to project long-range buildout conditions. Based on these combined measures, an individual intersection ICU between .90 and 1.00 indicates a "potential deficiency," but is considered satisfactory if the ICU average is below .91. An ICU greater than 1.00 at an intersection is considered a "significant deficiency," since even within the reliability limitations of the traffic model data, there is a high probability that the location in question exceeds the LOS "D" system performance standard.

POST 2010 ADT VOLUMES (IN THOUSANDS)

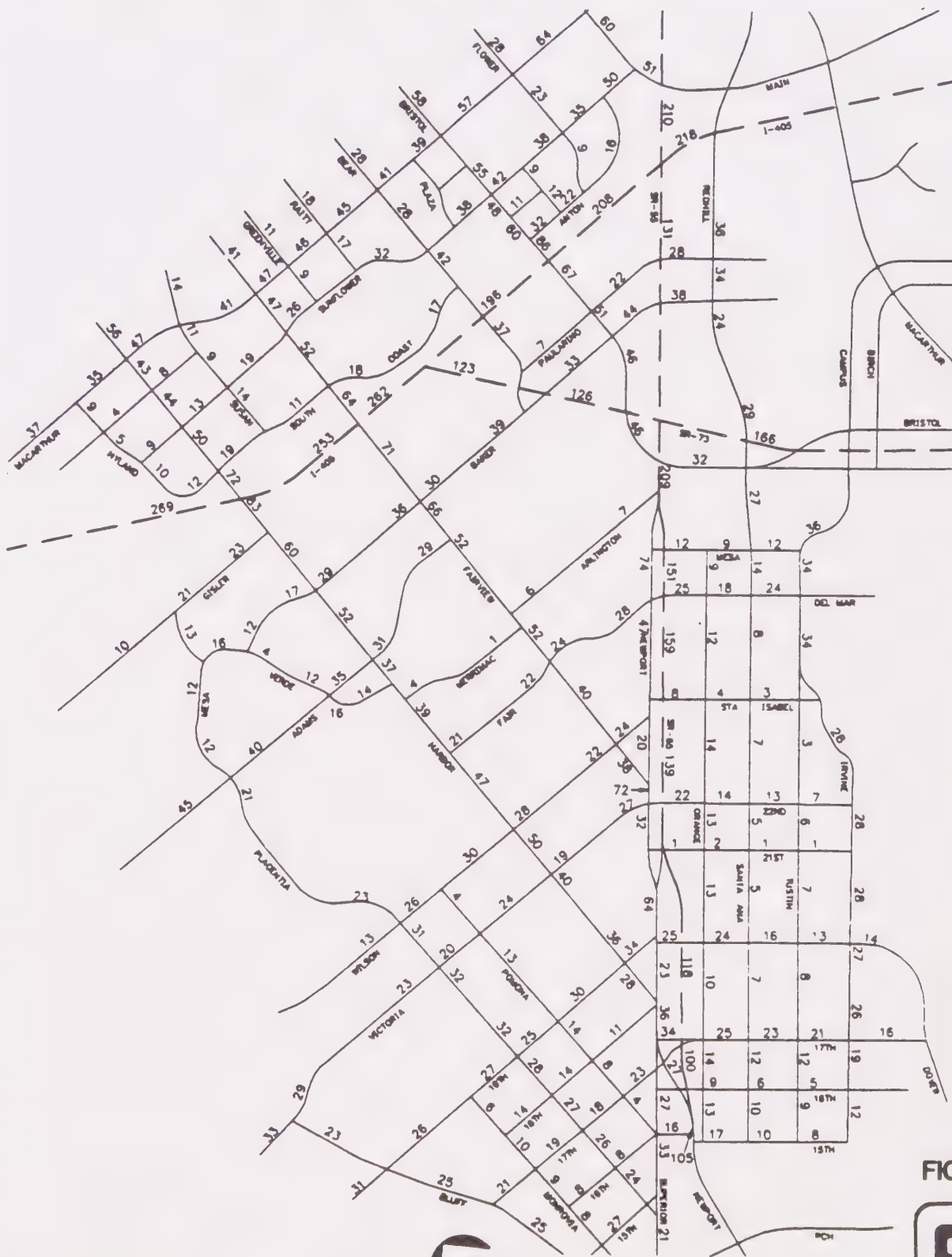


FIGURE 53

INTERSECTION GROUPS

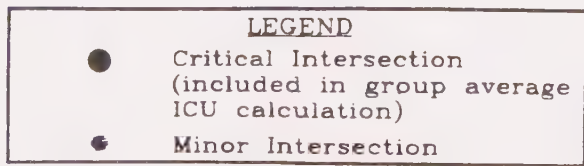


FIGURE 54

Table 51 indicates the specific intersections which are projected to exceed an intersection ICU of 0.90.

TABLE 51

"POTENTIALLY DEFICIENT" INTERSECTIONS
Post 2010 - General Plan Buildout

Intersection Group	Intersection	ICU Value Post 2010	
		AM	PM
A	Bristol and Sunflower	.95	.89
C	Harbor and Gisler	.96	.96

As can be noted from the table, the "potentially deficient" intersections are located in the northern area of the City. Also, none of the intersections can be classified as a "significant deficiency" as no ICU exceeds 1.00. As indicated in the previous discussion, all of the intersection groups are projected to operate at an acceptable level of service.

The use of the grouping methodology in the performance criteria is an important feature of this evaluation. It represents valid use of long-range traffic model data and recognizes the statistical limitations of such data. As development occurs in the City, individual projects will be evaluated on a short-range basis, focusing on individual intersections, and using more detailed data that can represent driveway locations and other features not possible in a long-range traffic model.

TRANSPORTATION MITIGATION

Resolution of Costa Mesa's existing and potential transportation problems can be approached in a number of ways. The nature and extent of the problem, and its solutions, are affected by the actions of a number of individuals, groups, and government agencies. This section will discuss those measures applicable to the City of Costa Mesa, and will concentrate on those over which the City has jurisdiction or influence.

Land Use Relationships

As discussed in previous sections, the efficiency of Costa Mesa's surface transportation system is affected by the design of the street network to a greater degree than it is by the intensity of land use within the City because of the impacts of regional and through traffic on local streets. This does not mean, however, that land use considerations should be disregarded in dealing with

transportation issues. Given the same citywide land use intensity, the design and location of specific developments can have an impact on transportation efficiency and safety.

Generally, the location of high intensity land uses is in proximity to major thoroughfares. This increases the attractiveness of public transit to residents or users of the development. Concentration of development along corridors or within centers in turn encourages establishment of more convenient transit systems. Capacities can be increased, headways reduced, and other service improvements made to service increased ridership. A second advantage of such a development pattern is that private automobile trips have easy access to arterials and are not required to travel along local streets or through lower density residential areas. This results in a reduction of safety hazards as high traffic volumes are removed from residential areas and other low capacity streets. Policies in the Land Use Element support and encourage mixed use projects.

Juxtaposition of dissimilar but compatible land uses provides the opportunity to turn trips which would normally be made in private automobiles into pedestrian trips. Whether it takes the form of an integrated development or independent adjacent developments, this approach can be used to provide housing, employment, and shopping within walking distance of each other.

The mixed-use concept has developed to a greater extent in the South Coast Plaza area than in any other area in the City. Town Center, Metro Center and The Lakes developments contain offices, retail stores, restaurants, theatres and dwelling units. Particularly within the Town Center area walkways enhanced by a sculpture garden, fountains and landscaped open space, provide a pleasant pedestrian network. However, to fully encourage pedestrian trips, walkways should be extensive and should connect all subareas (such as The Lakes, Town Center, South Coast Plaza) within the South Coast Metro area. Pedestrian bridge(s) across Bristol Street are needed to provide strong pedestrian linkages. A people-mover would also reduce vehicle trips within the area, but pedestrian walkways are always vital to an urban area. Localized transit systems (i.e., shuttle buses, monorail, etc.) may also be effective and are currently receiving further study.

The balance of land uses and circulation system capacities is most critical in north Costa Mesa. Environmental Impact Reports for significant development proposals on the four major land holdings (Arnel Metro Pointe, Segerstrom Town Center, Transpacific Development, Metro Center and Sakioka Farms) north of the San Diego Freeway indicated that planned improvements to the local and regional circulation system were not sufficient to accommodate the traffic volumes generated by the proposed 6.7 million square feet of commercial, office and retail space and 1,596 dwelling units for these properties. Recognizing these deficiencies, the City Council initiated three major studies to address the identified problem areas. The goal of these studies (the I-405 Access Study, the North Costa Mesa Arterial Improvement Study, and the North Costa

Mesa Specific Plan) was to develop a comprehensive package of regional freeway and local arterial improvements with specific phasing and funding mechanisms to accommodate future traffic demands of these developments.

The two circulation-related studies were completed and resulted in a list of specific freeway and arterial improvements which are necessary to provide adequate capacity to support the planned land use intensities. These improvements have also been incorporated into the Master Plan of Highways.

The North Costa Mesa Specific Plan was not completed as many of the land use entitlement and phasing components have been incorporated into the General Plan.

Transportation Systems Management

Transportation Systems Management (TSM) is a significant tool used to increase the people-carrying capacity of existing facilities and to reducing peak period volumes. TSM measures can generally be implemented quickly and are not as costly as the construction of major new facilities. TSM is an effective mitigation for reducing traffic volumes. The Transportation Management section discusses this topic in further detail.

Route 55 (Costa Mesa) Freeway

Completion of the Costa Mesa Freeway through the City to a terminus at about 15th Street will greatly increase capacity of the route. This in turn will provide relief from excessive volumes on parallel residential streets such as Orange and Santa Ana Avenues, and will reduce volume, congestion, and delays on Harbor Boulevard and Fairview Road. The effect will be especially noticeable along Newport Boulevard during summer months when beach traffic is removed from surface streets by the extended freeway. As volumes on north/south streets parallel to the freeway are reduced, intersection congestion will decrease, thus improving the flow of traffic on affected east/west streets.

Acquisition/Funding

Required transportation system improvements can be funded in a number of ways. The following describes these measures which have or can be applied in Costa Mesa.

(a) Right-Of-Way Acquisition

Right-of-way for street construction or widening is acquired in two basic ways: City purchase and property owner dedication. Since 1966, the City's land use ordinances have required dedication of land necessary to construct or widen streets to their full widths as shown on the adopted Master Plan of Highways. Where circumstances indicate that street widening will not take place for a number of years, the City has often accepted a continuous, or irrevocable, offer to dedicate in place of actual dedication. The

offer can be accepted at a later date when construction is imminent. This approach allows the property owner to use the land for an extended period of time and absolves the City of liability during this time while ensuring availability of the right-of-way when it is needed.

Where street widening is indicated adjacent to a parcel which has not undergone recent development, right-of-way must be purchased, either through negotiated settlement or through condemnation. Projects involving streets shown on the Orange County Master Plan of Highways are candidates for funding through the Arterial Highway Financing Program. This is a program, administered by the County of Orange, whereby costs are shared by the City and County. Monies involved are those obtained through gas taxes. Other street improvement projects are financed by the City through gas tax funds, traffic fines and forfeitures, revenue sharing, general funds, development trip charges/traffic impact fees, and State and Federal grants as available.

(b) Intergovernmental Arrangements

Developments with high traffic generation often impact streets and intersections some distance from the site. If the impacted facilities are adjacent to already developed properties, necessary improvements must be made at public expense. The problem becomes even more difficult when the development and the impacted areas are located in different cities. This situation has arisen in north Costa Mesa. Recent and projected development in Costa Mesa, Santa Ana, Irvine, Tustin and Newport Beach will contribute to traffic impacts on north Costa Mesa streets.

The City has worked with nearby cities to develop an orderly mitigation program for traffic impacts of the major developments in the vicinity of the Costa Mesa Freeway located in the cities of Costa Mesa, Santa Ana, Irvine and Newport Beach. The Inter-City Liaison Committee is the primary focus of this coordinated effort. This management has been formalized in a memorandum of understanding between the cities of Costa Mesa, Santa Ana, Irvine and Newport Beach and has resulted in the preparation of the Four-City Traffic Study (April 1991). The purpose of this cooperative study was to analyze short-range (1995) capacity needs on the circulation system common to all communities. Joint funding of improvements needed to meet the projected demands was also an important consideration of the study.

Another example of intergovernmental cooperation is the joint Powers Authority which was founded to fund and construct the San Joaquin Hills Toll Road. The Joint Powers Authority has established the San Joaquin Hills Toll Road Fee Program, an impact fee to help fund necessary transportation improvements. The fee is charged at the time of building permit issuance and is subject to adjustment for inflation and project modifications. The fees effective as of March 1991 are listed in Table 52.

TABLE 52

SAN JOAQUIN HILLS TOLL ROAD
TRAFFIC FEE SCHEDULE
March 1991

Multiple	\$1,275/dwelling unit
Single	\$2,185/dwelling unit
All Nonresidential	\$2.80 sq.ft.

NOTE: The areas north of the I-405 Freeway and east of Harbor Boulevard or northeast of the Corona del Mar Freeway are subject to this fee. This fee is subject to adjustment for inflation or a change in the scope of the project. The fees are forwarded to a regional joint powers agency to extend the Corona del Mar Freeway from Costa Mesa to Mission Viejo. Please note that this information is for discussion purposes only, and is subject to change.

(c) Impact Fees

As noted in the discussion of land use and circulation relationships, the City has initiated preparation of comprehensive plans to provide adequate circulation system capacities in north Costa Mesa. One of the key components to implement these plans is a funding mechanism to ensure that future developments "pay their own way" in terms of the necessary upgrades to the circulation system to support the desired level of development. Initial funding for the improvements is provided by the Development Trip Fee Program. This program was established through City Council Resolution No. 88-10. The amount of the trip fee was set at a maximum of \$668 per trip for new developments generally located north of Baker Street. Fees for typical land uses are identified in Table 53. Additional Mello-Roos mechanisms under evaluation include either an assessment district or a community facilities district.

TABLE 53

NORTH COSTA MESA DEVELOPMENT TRIP CHARGE

EFFECTIVE FEBRUARY 1, 1988

Office	\$8.68/sq.ft.
Multiple Family Apartments	\$4,342/dwelling unit
Single Family Detached	\$7,348/dwelling unit
Single Family Attached	\$5,678/dwelling unit
Hotel	\$7,014/room
Retail Commercial	\$50.23/sq.ft.
Other Uses	\$668/daily trip

Note: Please note that this fee information is for discussion purposes only, and is subject to change.

Transportation capacity improvements and cost sharing are best identified in terms of equitable local and regional benefit and/or participation. Equitable benefit/participation can be identified on the basis of percent of new traffic forecast at specific improvement locations.

Needed improvements and associated costs can be developed by traffic analysis zone. Funding can be acquired through traffic impact fees that are calculated by the "rational nexus" methodology. Rationale requires a direct connection between development and improvement costs be demonstrated. Both development traffic and improvement costs can be measured on a per land mile basis, and traffic impact fees may be calculated accordingly. A citywide development impact fee program based on this methodology is proposed as one of the implementation programs in this element.

(d) Tax Increases

During 1990 the votes of the State of California and the County of Orange approved two ballot measures which will provide additional funding for transportation improvements. The first (Proposition 111) authorized increases in the State gasoline tax, where the second (Revised Measure M) authorized an additional half-cent increase in retail sales tax for Orange County. Combined, these new funding sources are estimated to result in revenues of \$46.5 million for Costa Mesa over a 20-year period.

(i) Proposition 111

On June 5, 1990, California voters approved Proposition 111 which was one component of a six-bill Transportation and Rail Bond Fund package. In addition to amending the Gann Limit, Proposition 111 authorized the imposition of a nine cent per gallon gas tax, staged over a 5-year period, to fund various transportation improvements throughout the State. The gas tax is estimated to raise \$18.5 billion statewide for these improvements over a twenty-year period. Orange County's share of these gas tax subventions is estimated at \$1.7 billion over the ten-year period. Costa Mesa's share is estimated at \$12.6 million over 20 years.

In order to qualify for these new gas tax subventions, Congestion Management Program (CMP) legislation (AB 471 amended to AB 1791) requires every urbanized county in the State with a population of 50,000 or more to prepare, adopt and implement a Congestion Management Program. A primary goal of the CMP is to promote a coordinated planning effort to deal with congestion that includes Federal, State and local agencies, business, private groups and environmental interests by conditioning the eligibility of new gas tax subventions on the adoption and implementation of a countywide CMP. Specifically, the CMP will promote a more coordinated approach to land use and transportation decisions. Only those cities and counties that have adopted a CMP and can annually demonstrate an integration and application of CMP requirements into the

land use decision-making process would be eligible for new funding. The specifics of the CMP requirements are discussed in the following Transportation Management section.

(ii) Revised Measure M

On November 6, 1990, Orange County voters approved Measure M, the Revised Traffic Improvement and Growth Management Ordinance, providing the funding for needed transportation improvements. Measure M authorized the imposition of a half-cent retail transaction and use tax for a period of twenty years, effective April 1, 1991. The sales tax increase is estimated to raise \$3.1 billion countywide over the 20-year period. Costa Mesa's share is estimated to approach \$34 million over this twenty-year period.

Portions of the monies received from the new sales tax revenue will be returned to local jurisdictions for use on local and regional transportation improvements and maintenance projects. In order to qualify for these revenues, however, Measure M requires each jurisdiction to comply with the Orange County Division, League of California Cities Countywide Traffic Improvement and Growth Management Program which was included by reference in the Measure M Ordinance. The Countywide Growth Management Program is designed to achieve a cooperative process among Orange County local jurisdictions to coordinate and implement traffic improvements and stronger planning on a countywide basis, while also maintaining local authority over land use decisions and the establishment of performance standards in light of regional impacts. Additional discussion of the measure's funding requirements is provided in the following Transportation Management section.

TRANSPORTATION MANAGEMENT

Transportation management involves a comprehensive approach to reducing the number of vehicles used for personal commuting (demand management) as well as a coordinated approach to the funding and construction of needed transportation system improvements (systems management). Major issues such as the anticipated increase in vehicle trips regionwide resulting from continuing growth and the identified shortfall in the transportation system's capacity and funding need to be addressed in a comprehensive transportation management strategy. Such a strategy can not be solely implemented at a regional or local level but requires cooperation between the two tiers of government.

Throughout the southern California region, daily trips and work commutes are forecast to increase about 42% over 1988 conditions by the year 2010. Vehicle miles traveled are anticipated to increase by 70% during the peak periods, and vehicle hours of travel by 365% in the morning peak. Possible methods for improving this regional mobility forecast include one or more of the following:

- Jobs/Housing Balance -- a shift to locate jobs and housing near each other to produce shorter commutes.
- Facility Development -- an emphasis on new construction and expansion of the existing system.
- Demand Management -- an emphasis on changing driver behavior to lessen demands on the system.
- System Management -- an emphasis on methods for improving the performance of the existing system.

Traffic Impact Analyses

Traffic impact analyses are needed to effectively implement a transportation system management program and to ensure correlation between the projected or proposed land uses and the circulation system. The analyses assess the existing transportation system and project its future operation with the addition of new development and/or new transportation system improvements. The General Plan Land Use Element and this element were jointly developed using this methodology.

The traffic impact analysis process typically involves documentation of existing conditions, estimation of new trips to be generated by a specific development and by cumulative development, distribution and assignment of the new trips, and forecasting of existing conditions plus new development traffic service levels.

To provide consistency, the City follows guidelines adopted by the County and complying with methodology established by the Congestion Management Program (CMP) for traffic impact analyses.

System Capacity Improvements

Transportation systems management (TSM) may include limited physical improvements such as street widening, addition of turning lanes, bicycle lanes and trails, pedestrian and vehicle overpasses, bus bays, and similar facilities. Operational improvements are also considered TSM measures.

System capacity improvements can be measured in terms of added passenger cars per hour able to pass over a given roadway under the prevailing roadway and traffic conditions. As a general rule, the average lane capacity for departure from intersection stops is 1,600 to 1,700 vehicles per lane per hour.

The key constraint to the effectiveness of any system capacity improvement is the prevailing traffic conditions. If the existing traffic system is severely overburdened, a capacity improvement may have a limited effect, or acceptable traffic system operations may only be achieved by extensive and costly improvements.

(a) Regional Improvements

Major regional system capacity improvements include the carpool lanes recently established on the Costa Mesa (SR-55) Freeway. In addition, carpool lanes were added to the San

Diego (I-405) Freeway in conjunction with a widening project in 1988. Additionally, the County is studying the possibility of a transitway to enhance the SR-55 carpool lanes; the transitway would provide direct access to employment areas at Sunflower/Main and Bear Street/I-405.

(b) Local Improvements

The tentative construction schedule calls for completion of the Bear Street access by 1993 and completion of the Sunflower Avenue access by 1997. Alternatives analysis and environmental analysis was initiated by the OCTD in 1989. Along arterial transit routes the construction of bus turnouts and attractive shelters with full amenities (e.g., route and time information, comfortable and adequate seating, trash receptacles, and public telephones) could be provided to encourage ridership.

Additional local transportation system improvements include:

- Increased access ramp and widening improvements along I-405.
- Interchange improvements including SR-55 and SR-73, and SR-73 and I-405.
- Completion of SR-55.
- Intersection widening/capacity improvements.
- Completion of signal timing program along major arterials.
- Agreements with CalTrans to interconnect off-ramp signals with the City's signalized intersection system.

Demand Management

Transportation demand management (TDM) is not limited to a single method, but may reasonably include a variety of methods; several methods are as follows:

1. STAGGERED WORK HOURS to spread peak period loads at critical intersections over a period of two or more hours at the beginning and end of the work day will greatly reduce congestion, especially as this practice is adopted by others.
2. REDUCED WORK DAYS, 4 days at 10 hours, and/or 4 days at 10 hours with overlapping schedules for five-day coverage, will reduce the number of work trips and will spread peak periods.
3. REDUCED LUNCH HOURS encourage "brown bagging" and reduce short trips. Development of on-site lunch facilities helps to reduce off-peak congestion, and also enables coordination with staggered work hours.

4. COMMUTER SERVICE by bus or van to common points reduces the number of vehicles on-street and the number of parking spaces required. The cost of parking saved will assist in defraying the cost of the vehicles. The company could establish a company-owned or leased route, or participate therein.
5. CAR POOLING AND VAN POOLING can be encouraged by incentives to participants. Reduction of parking requirements may result in cost savings which can help offset incentive costs.
6. TRANSIT can be encouraged by subsidies such as provision of free bus passes to employees. This too can be financed by cost savings realized from reduced parking requirements.
7. BICYCLING AND WALKING can help justify reduced parking requirements. Use of this feature may be somewhat limited by the location of the site in relation to residential areas.
8. REWARD FOR SHORTENED WORK TRIPS through employee housing assistance and loans can be considered as effective TSM service since it reduces the vehicle miles traveled.
9. DELIVERY RESCHEDULING to off-peak hours reduces peak period congestion.
10. USE OF COMPANY VEHICLES BY FIELD-ORIENTED EMPLOYEES reduces work trips by allowing direct home-to-site travel and brings the employee to the plant at off-peak periods.

In response to the requirements for the Congestion Management Program, the City adopted a TDM ordinance to require new major developments to provide facilities to promote many of these options.

Establishment of a Transportation Demand Management (TDM) Program and a yearly monitoring report is now required as environmental mitigation measure on new projects. However, no goals have been established for the TDM programs and therefore the future effectiveness of those programs is uncertain.

To be effective, most TDM programs require involvement of a number of employers over a wide area. Also, several different measures must be employed in order to achieve a significant impact on the transportation system. To substantially improve transportation conditions, ride-sharing incentives must be offered to a significant number of employees as well as combined with other TDM strategies such as transit incentives, staggered work hours, and others. The Transportation Management Association for the South Coast Metro Area is an excellent example of a cooperative effort to organize and implement areawide TDM programs. The TMA was established as a joint effort by the South Coast Metro Alliance (a consortium of several major developers and businesses) and the Orange County Transportation Authority.

TDM need not be restricted to business and industry; educational institutions may also benefit. For instance, Orange Coast College, with over 25,000 students, has the potential for noticeably impacting local traffic conditions. Analysis of peak period

conditions may reveal impacts which can be mitigated by adjustments to class schedules in the same way that staggered work hours reduce the impact of job trips. A proposal to require rideshare programs for schools is included in recent amendments to the Air Quality Management Plan.

Implementation of the South Coast Air Quality Management District's Regulation XV will result in additional TDM programs being implemented within the City. This regulation requires a good faith effort from major employers (i.e., 100 or more employees) to reduce morning peak hour trips by obtaining an average vehicle ridership of 1.5 persons per vehicle.

Other TSM and TDM programs which involve the City include:

- Coordination with OCTA regarding transitway along Route 55 and I-405.
- Coordination with OCTA to construct bus turnouts and shelters.
- Coordination with OCTA regarding ride matching services for major employers and/or activity centers.
- Coordination with major employers regarding transportation management programs.

Intergovernmental Cooperation

Intergovernmental coordination between the City and adjoining cities, the County of Orange, Orange County Transportation Authority and regional agencies is also necessary when developing and implementing improvement projects and transportation related programs. As noted earlier, intergovernment coordination is a key component of the recent voter approval for State gas tax and local sales tax increases.

The specifics of the Congestion Management Program mandated by Proposition 111 and the Growth Management Element mandates of the Revised Measure M sales tax increase are summarized in the following sections.

(1) Congestion Management Program

The Congestion Management Program (CMP) requirements of Proposition 111 are contained in AB 1741. Briefly, the required components include:

Land Use Coordination: The CMP requires establishment of a program that analyzes the impacts of land use decisions made by local jurisdictions on regional transportation systems. The program shall also estimate the costs associated with mitigating identified impacts.

Transportation Modeling: The CMP requires development of a database and transportation modeling system that are consistent with those used by the Southern California Association of Governments (SCAG).

Level of Service (LOS): The CMP requires that traffic level of service standards be established for the CMP Highway System, which shall include at a minimum all State highways and principal arterials. The CMP requires that a LOS standard be set at "E" or at the existing LOS, whichever is further from LOS "A", for any intersection or roadway segment on the CMP Highway System.

Public Transit Standards: The CMP requires that standards for the frequency and routing of public transit be established, and that transit service provided by separate operators be coordinated.

Transportation Demand Management (TDM): The CMP requires that jurisdictions adopt and implement a TDM ordinance that promotes alternative transportation methods.

LOS Deficiency Plans: The CMP requires that Deficiency Plans be prepared that describe how excessive congestion on the CMP Highway System can be mitigated in those cases where acceptable LOS cannot be met at certain locations.

Capital Improvement Program (CIP): The CMP requires establishment of a seven-year CIP to maintain or improve LOS and transit performance standards, and assist in achieving congestion management and air quality improvement objectives.

Annual Monitoring: The CMP requires that the Congestion Management Agency (CMA), which in Orange County is the Orange County Transportation Authority created through SB 838, annually determine if the County and cities are conforming with CMP requirements and shall monitor the implementation by each jurisdiction of all elements of the CMP.

For Costa Mesa, the CMP Highway System includes the three State highways (the San Diego, Corona del Mar and Costa Mesa Freeways) and the two "super streets" (Harbor Boulevard and Adams Avenue, west of Harbor) which traverse the City (Figure 55).

Implementation of CMP components has been initiated. In May 1991, the City Council adopted a Transportation Demand Ordinance. Additionally, the City's standard five-year capital improvement program has been expanded to a seven-year program as required by CMP legislation. Ongoing implementation will occur through the implementation of programs described later in this element.

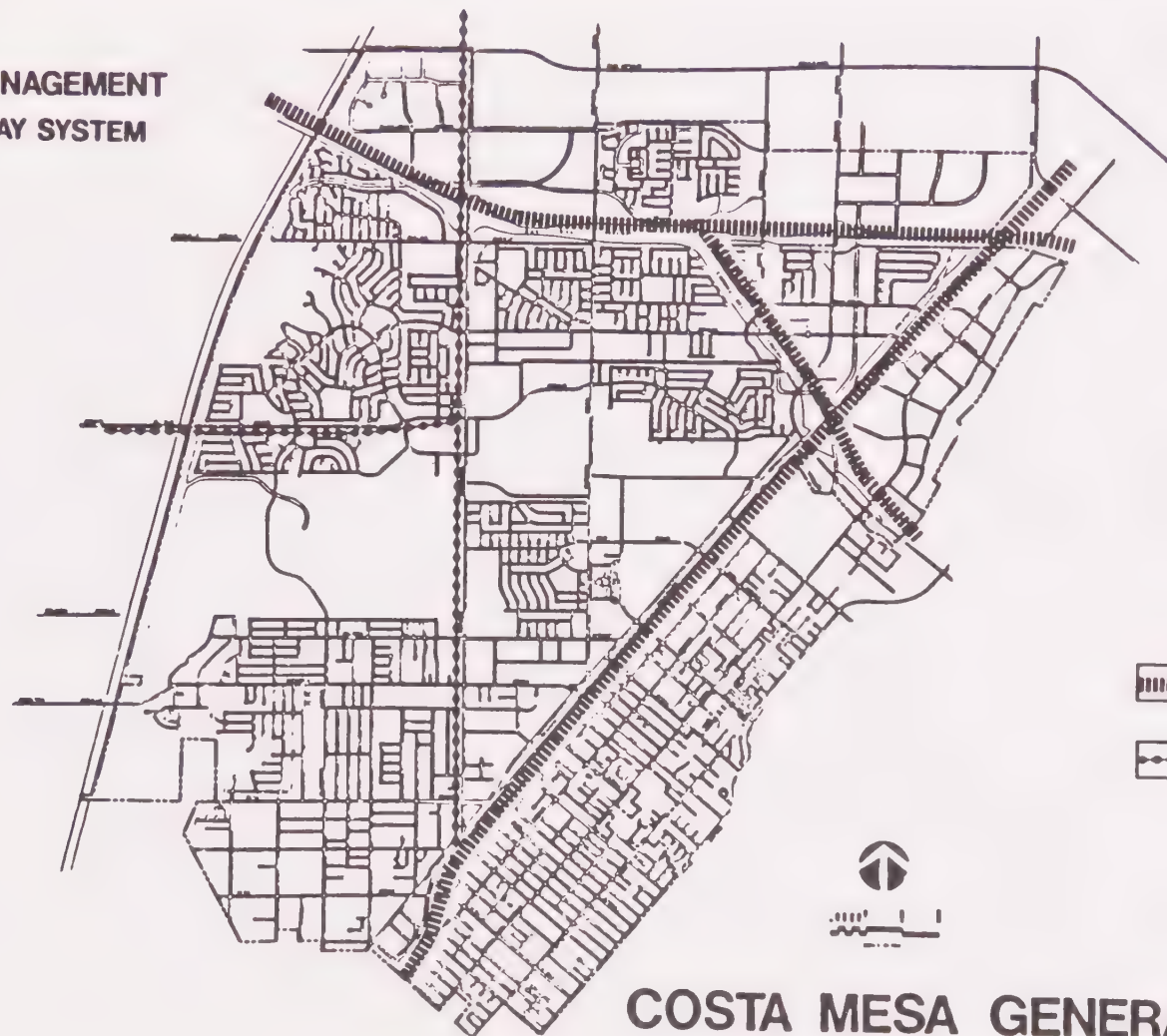
(2) Growth Management Element

In order to receive funding from the increased local sales tax, Costa Mesa must:

- Adopt a Growth Management Element by May 1992 which includes the following:
 - Traffic level of service (LOS) standards.
 - Planning standards for other services and public facilities (developing communities only).
 - Development mitigation program.
 - Development phasing and annual monitoring program.

CONGESTION MANAGEMENT
PROGRAM HIGHWAY SYSTEM

325

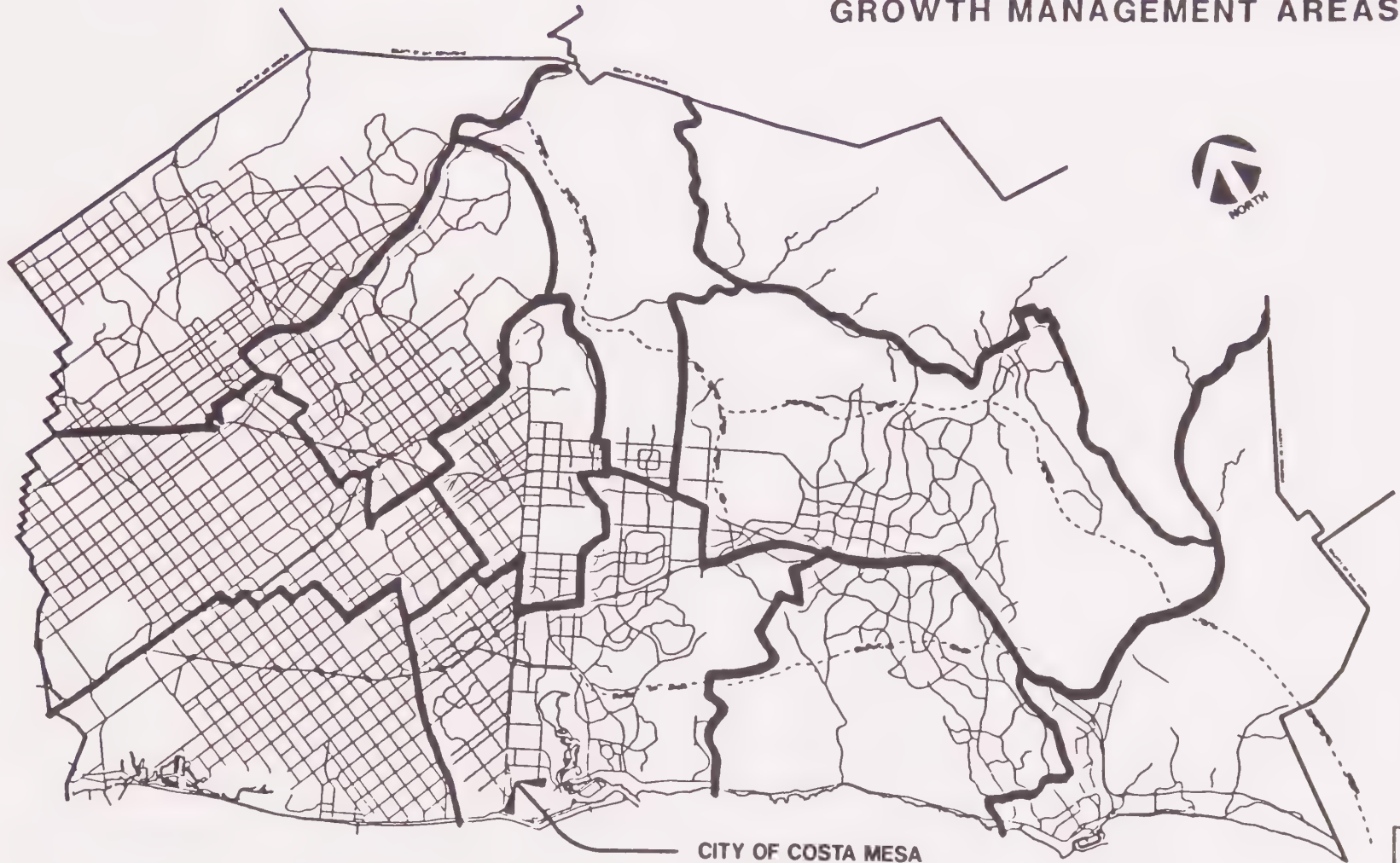


COSTA MESA GENERAL PLAN



FIGURE 55

REVISED MEASURE M
GROWTH MANAGEMENT AREAS



CITY OF COSTA MESA



FIGURE 56

- Participate in Interjurisdictional Planning Forums.
- Develop a seven-year Capital Improvement Program.
- Address housing options and job opportunities.
- Adopt a Transportation Demand Management (TDM) Ordinance.

As can be seen, a number of the Measure M funding requirements overlap the CMP requirements. The newly-created Orange County Regional Advisory and Planning Council has initiated a reconciliation effort to develop a process that allows the consolidation of local government actions in a manner that demonstrates compliance with both sets of requirements and the Air Quality Management Plan.

As is the case with the CMP requirements, Costa Mesa has established programs and action plans which are comparable to the Measure M funding requirements. The Four-City Traffic Study described earlier is just one example which may form the basis for the interjurisdictional planning forums required for funding eligibility. Figure 56 shows Costa Mesa's location with respect to the Growth Management Areas adopted by the Regional Planning and Advisory Agency for Measure M implementation.

IMPLEMENTATION PROGRAMS

In order to successfully manage the City's transportation system, the careful allocation of funds and the identification and prioritization of needed systems improvements is required. To appropriately fund and implement transportation projects and programs the City has policies that accomplish the following:

- Prepare an annual traffic service and safety needs assessment.
- Prepare an annual priority list of improvement programs.

Implementation programs to achieve the City's goals related to the transportation system are incorporated into the Measure M Growth Management Element.

PUBLIC TRANSIT

The primary provider of public transportation in Orange County is the Orange County Transportation Authority (OCTA). In 1989, the system carried an average daily total of 140,000 passengers. Passengers have increased since the late 1970's when approximately 85,000 passengers were carried daily. Ridership increased from 80,000 to nearly 100,000 per day during the height of the 1979 fuel crisis. Fifteen of the twenty thousand returned to their cars as gasoline became more available.

The OCTA offers several types of service. Regular Fixed Route (RFR) lines account for approximately 95 percent of the District's patrons. These are the traditional, nonexpress surface street buses that cover the County in a grid-like pattern. Some are described as "radial" routes in that a number of lines converge in a localized area, such as downtown Santa Ana or South Coast Plaza.

Neighborhood Dial-A-Ride service is provided to people who are at least 65 years old or handicapped with District-owned small buses (19 passengers) and vans. Passengers wishing to travel outside the zone of origin must transfer between vehicles at the zone boundary and pay an additional zone fare. A party of five or more passengers traveling to a single destination, referred to as a "group load", can traverse several zones without changing vehicles but must pay zonal fares. The span of service for Dial-A-Ride is from 7:00 a.m. to 5:00 p.m. on weekdays, and from 10:00 a.m. to 4:00 p.m. on Saturdays.

Formerly, the Neighborhood Dial-A-Ride operation offered special service to handicapped persons including the frail elderly, developmentally disabled, and the blind. The service allowed these special rider groups to travel across zone boundaries without transferring. However, OCTA transferred a number of lift-equipped vans to the Consolidated Transportation Services Agency which now provides direct and subscription service to handicapped persons who formerly made interzonal trips on Dial-A-Ride. Most of the Dial-A-Ride vehicles are equipped with wheelchair lifts and can still provide service to the handicapped community for intra-zonal trips.

In addition, OCTA on a continuing basis evaluates the need for commuter based services to major activity centers, such as the South Coast Metro area, and OCTA is particularly interested in services that could use the preferential lanes on the Costa Mesa Freeway and the I-405.

Nine RFR lines currently run through Costa Mesa with seven stopping at South Coast Plaza. OCTA also offers 33 "park-and-ride" facilities. The facilities represent the broadest range in park-and-ride development, from small, private (leased) facilities up to large, permanent transportation centers, with many functions in addition to the park-and-ride activity. Costa Mesa has two park-and-ride facilities: the first is located at the Crystal Court shopping center where CalTrans leases 50 parking spaces on the top deck of the parking structure; the second is located at the Orange County Department of Education building at 200 Kalmus Street.

Other forms of local public transportation are the taxicabs and airport shuttles which provide door-to-door service. The Yellow Cab Company of Costa Mesa made an average of 220 trips per day in October 1984, and an average of 149 trips per day in October 1986, which is an indication that a fairly small percentage of trips in the overall transportation system are taken by taxicab. Also, many hotels in the area operate courtesy shuttles as does the South Coast Plaza which provides a shuttle throughout the parking areas.

RAPID TRANSIT

Plans for a rapid transit system to serve Orange County accelerated in 1990. At that time, the five central County cities of Irvine, Costa Mesa, Santa Ana, Orange and Anaheim began a cooperative

planning effort to develop a fixed guideway project to link major employment and activity centers within the member communities. Shortly after the project was initiated, the city of Fullerton was also included as a sixth member agency. The initial route and alternate alignments are shown in Figure 57.

The cooperative planning effort was formalized by the creation of a joint powers authority between the six member agencies and the County of Orange. The Orange County Transportation Authority participates as an ex-officio member. Associate members may also be added to accommodate future extensions to adjacent communities such as Brea, Tustin and Huntington Beach.

The primary alignment for the fixed guideway route extends along Main Street, from Irvine to Santa Ana. A potential station location in Costa Mesa has been identified near the intersection of Main Street and Sunflower Avenue. An alternative alignment under study would bring the route off of Main Street, along Anton Boulevard to Bristol Street, then north to MacArthur Boulevard and back to Main Street in Santa Ana. Future studies and analyses will be conducted to refine route and station locations within the community.

The City Council also authorized formation of a local citizens advisory committee to identify a local feeder system to support and to provide access to the core system. This committee is continuing its analyses and will provide recommendations to the City Council upon completion of its deliberations.

Because of the preliminary nature of the regional and local studies, specific details on the potential impacts of the systems on Costa Mesa's overall transportation system are difficult to quantify at this point in time. However, it is clear that access to a major regional transit system will provide an important transit alternative which could have many significant benefits. Further review of final route alignments and station locations as well as land use plans for adjacent private development will be required as ongoing action items.

BIKEWAYS

Costa Mesa adopted an official Master Plan of Bikeways in 1974. The plan identified major activity nodes for employment, schools, shopping, and recreation, and proposed a system of bike lanes (on-street) and bike trails (off-street) to connect these centers. Nearly 15 miles of bikeways have been completed in the City, with five additional miles adjacent to the City boundaries having been built by others. Figure 58 displays the existing bikeway network.

Most of the completed facilities are bike lanes, which consists of painted lines on the street pavement with signs limiting the use of the lane - usually adjacent to the curb - to bicycles. Bicycle trails are physically separated from the roadway and provide greater protection for bicyclists.

CENTRAL ORANGE COUNTY FIXED GUIDEWAY PROJECT

ALTERNATIVE ALIGNMENTS



FIGURE 57

The Santa Ana River trail runs along the 4.25-mile western boundary of the City. A one-mile bicycle trail on the east side of Irvine Avenue, between 21st Street and University Drive, provides close-hand views of the open area around and including Upper Newport Bay. The existing Costa Mesa Golf Course bike trail currently provides a connection from Harbor Boulevard/Fair Drive to 1,000 feet east of Placentia Avenue. The Master Plan of Bikeways extends the trail westerly to the Santa Ana River.

The appropriate type and route of a bicycle trail is determined by the type of rider. The two basic types of bicycle use are transportation and recreation. Riders using bicycles as an alternate mode of transportation generally seek the most direct route to work, school, or shopping. Frequently, these riders will use a street without a bicycle facility if it is shorter or more convenient than a nearby bike route. Recreational riders are generally more interested in a pleasant, enjoyable ride than a fast, direct route.

In 1975, the standard design for secondary, primary, and major highways in Costa Mesa was altered to provide pavement widths for bike lanes on each side of the street. Thereafter, right-of-way acquisition on arterials has included sufficient width to accommodate bike lanes, whether or not shown on the Master Plan of Bikeways.

In January 1989, a study of the City's bikeways design standards was completed. The study recommended that the State Department of Transportation's Planning and Design Criteria for Bikeways in California be adopted by the City. These standards were adopted by the County of Orange in 1981. Adoption of these standards will provide consistency with the County of Orange and other local cities, simplify projects proposed for funding through the State, and take advantage of the most current findings on safe design.

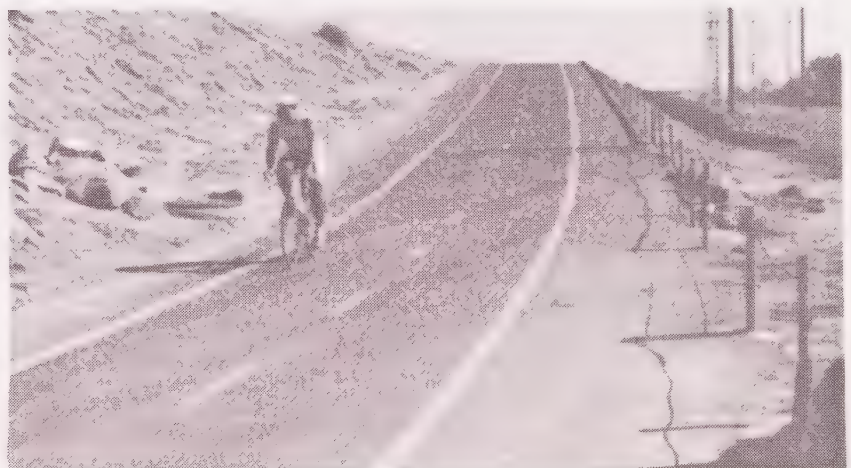
It is recommended that the State standards be adopted by the City with one modification. The modification proposed is to increase the minimum width of a two-way bike path (Class I) from 8 to 10 feet. This is consistent with the County of Orange standards.

Bicycle Travel in Urban Areas

Travel by bicycle is subject to a number of impacts in urbanized areas. As bicycles must, in most cases, share the same roadways used by automobiles, trucks, and buses, any increase in the number of motorized vehicles increases the potential for conflict. The designation of bicycle lanes and trails is the most often proposed solution to this conflict. Bicycle lanes, which consist of a painted strip reserving at least five feet nearest the curb for bicycle use, serve to better define the area for both cyclists and motorists. One shortcoming of this method of protection, however, is that the lane often imparts a false sense of security to bicycle riders. The impression is given that once in this lane a bicyclist is "safe" from conflict with vehicles in adjacent lanes. This can lead to a reduction in the level of caution practiced by bicyclists. No reliable statistics are available, however, to indicate the extent to which bicycle lanes increase or reduce bicycle safety.



Bicycle lanes and trails provide opportunities for both transportation and recreational riding.



EXISTING BIKEWAYS

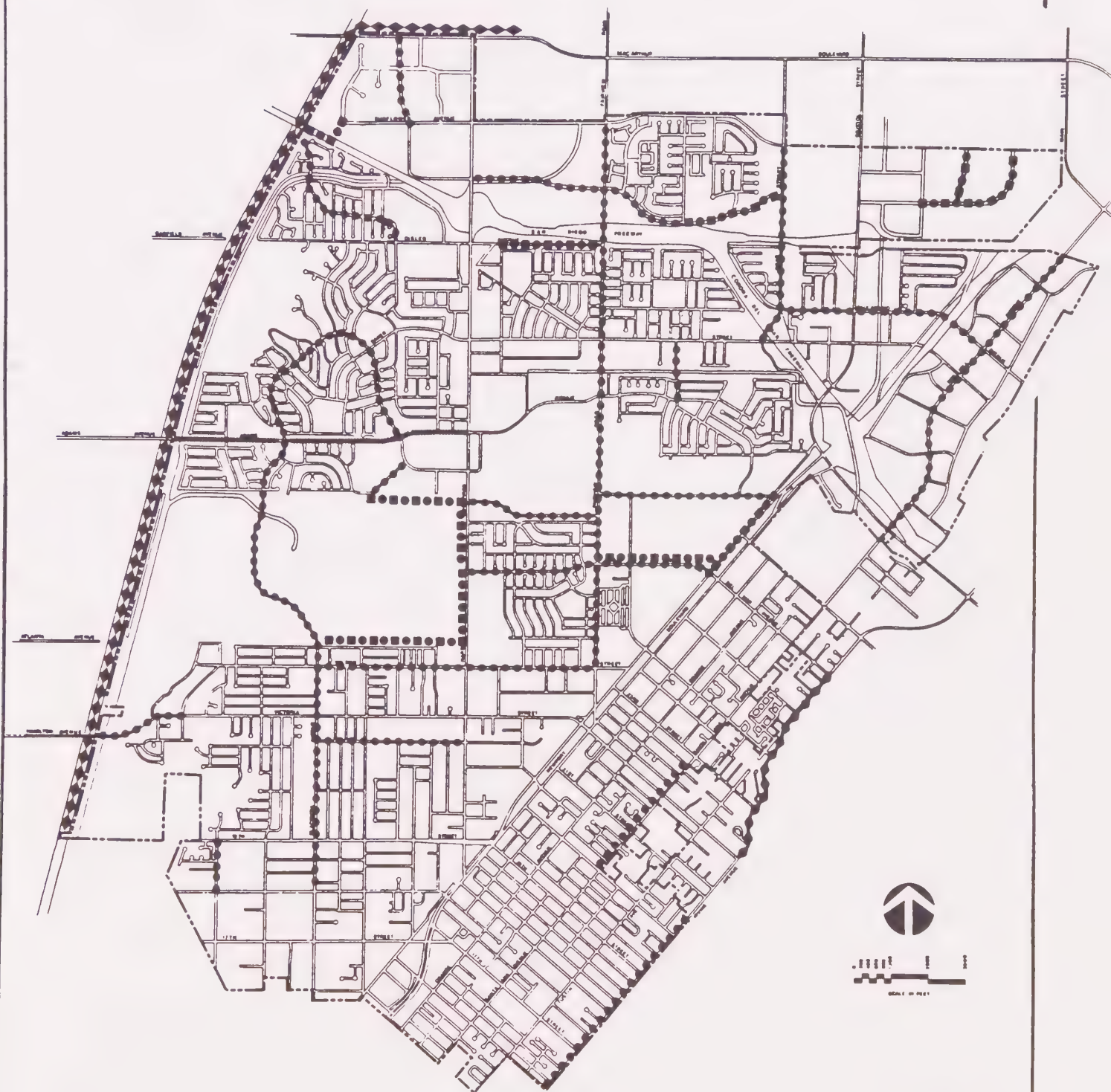


FIGURE 58



Bicycle trails are facilities at least eight feet in width, physically separated from vehicular roadways and reserved exclusively for bicycle use. Increased bicycle safety is afforded by the separation. Bike trails are most effective in long, uninterrupted stretches, such as along the Santa Ana River levee and the east side of Irvine Avenue between 21st Street and University Drive. The advantage is lost where the trail intersects with streets at the same grade level. The design of the transition from trail to street is critical. Dangers are involved in crossing at a location other than the normal crosswalk where motorists might not be prepared to expect it. Separate trails also pose hazards when crossing driveways as motorists are not accustomed to watching for crossings other than that at the normal sidewalk or within the street.

Master Plan of Bikeways

Costa Mesa's Master Plan of Bikeways, first adopted in 1974, is a comprehensive network linking major residential, recreational, shopping, and employment centers (see Figure 59).

The effectiveness of the City's bikeway network is only as good as the implementation of the Master Plan. While four connections to the Santa Ana River trail are included in the Master Plan, only one connection (at California Street/Gisler Avenue) functionally exists. Unfortunately, that connection dead-ends at Gisler and does not join with any of the existing City bikeways. (The Cadillac trail additionally connects, but is closed for repairs.) Access to the Santa Ana River trail will be improved once the Golf Course/Fairview Regional Park bike trail is completed. That trail will provide a link between the river and Harbor Boulevard.

Construction of several bikeways are tied to a road widening project such as Victoria Street, Baker Street and 19th Street. However, portions of the Victoria/22nd Street and the 19th Street bike lanes are outside the road widening project area and could be installed prior to the road widening.

Other bikeway segments are missing on Del Mar Avenue and South Coast Drive. In particular, the Del Mar Avenue bike lane is important because it provides a link to the Irvine Avenue bikeway. In the case of the Del Mar bike lane and with other planned bikeways, implementation may be difficult because installation of the bike lane requires removal of on-street parking.

The safety of bicyclists can be increased by construction of bicycle lanes and trails, but it also depends greatly on the riding habits of the bicycle operator. In an attempt to establish good riding habits, the Costa Mesa Police Department conducts bicycle safety classes in the local schools. In conjunction with the safety program, the Police Department also sponsors an annual bicycle rodeo where the children demonstrate their knowledge of bicycle safety skills and compete for prizes.

PEDESTRIAN FACILITIES

Pedestrian circulation, both internal to development and between developments, is an important consideration. Many short trips can be made on foot if adequate facilities are available and safe, convenient access is provided. Pedestrian activities may include short trips made entirely on foot as well as travel to and from automobiles, buses, or bicycles used for longer trips.

Off-site pedestrian trips are normally made on public sidewalks, where provided. Installation of a public sidewalk is required with all new construction and in some established residential neighborhoods. Exceptions have been the initial development of industrial areas in the northeast and northwest corners of the City. Although sidewalk construction is now required in these areas, much of the industrial district west of the airport was built without sidewalks. Because of their early development, large residential areas on the eastside and westside do not have sidewalks.

Commercial and industrial sidewalks are typically located immediately adjacent to the curb to allow unobstructed access to and from parked vehicles. In residential areas, where traffic and parking volumes are not as high, that had not always been the case. Until the early 1970's, residential sidewalks were separated from the street by a 5-foot landscaped parkway. For a number of reasons (including problems created when roots of mature parkway trees uplifted sidewalks, curbs, and gutters), the standard design approach was altered to eliminate the parkway. By placing the sidewalk immediately adjacent to the curb, trees were further removed from the street and the overall right-of-way width was reduced by 10 feet.

Pedestrian activities on-site involve circulation between buildings and to and from parked automobiles. Although walkways are provided in some cases, pedestrians are often required to walk through driveways and vehicle maneuvering areas. Perhaps the greatest potential for large volumes of on-site pedestrian traffic is in the South Coast Plaza, Town Center, and Sakioka Farms parcels (including The Lakes and Metro Center). Plans for a pedestrian bridge across Bristol Street to link Town Center with South Coast Plaza were approved by the City Council in 1991. Another bridge linking South Coast Plaza and Crystal Court has been proposed.

AIR TRANSPORTATION

Costa Mesa is located immediately adjacent to the John Wayne Airport of Orange County. Established in the 1920's as a private landing strip, the airport became a publicly owned facility in 1940. Ownership was transferred to the County in 1948. By 1985, over 3.2 million passengers were served by the Airport. Table 54 quantifies airport operations for the years 1978, 1984 and 1986.



In 1979, the Orange County Board of Supervisors commissioned development of a Master Plan and an Airport Noise Control and Land Use Compatibility (ANCLUC) Plan. In February 1985, the Board of Supervisors approved the Master Plan for Facility Improvements, an Airline Access Plan and a Land Use compatibility Plan. An Airport Noise Abatement Program began in 1972. Due to improvements in technology, regulatory practices and the Noise Abatement Program, there has been a steady decline in noise levels around the airport since 1972.

The issue of airport expansion has been the subject of longstanding litigation. Following approval of the Master Plan, the City of Newport Beach and two community organizations began negotiations with the County to resolve issues still under dispute. An acceptable compromise was reached and a Settlement Agreement among all participating parties was approved by the Federal Court in 1985.

Under the terms of the Settlement Agreement and the Master Plan, a new 337,900 square foot terminal building opened in 1990. Before the new terminal opened, only 55 average daily departures of regulated commercial aircraft were allowed, with a cap on passengers set at 4.75 million per year. Since the terminal opened, passengers are now limited to 8.4 million per year up to the year 2006, with a maximum of 73 average daily flights of regulated commercial airlines.

TABLE 54

JOHN WAYNE AIRPORT - ORANGE COUNTY
1978, 1984 AND 1986 OPERATIONS

	1978	1984	1986
<u>Air Carriers</u>			
Total Operations	50,201	29,299	56,554
Passengers	2.38 million	2.83 million	4.1 million
<u>General Aviation</u>			
Based Aircraft	900	970	970
Total Operations	553,968	435,261	479,046
<u>Air Freight</u>	2,650 tons	2,692 tons	1,793 tons

Sources: John Wayne Airport, Orange County Statistics.

Regularly scheduled commercial aircraft which generate less noise than 86 dB SENEL (Single Event Noise Exposure Level) and meet the noise abatement requirements are exempt from daily flight restrictions, but are included within the passenger limitations. Due to the number of exempt planes, in 1986 there were 32 average daily flights in addition to the 55 regulated aircraft flights. It is expected that an increasing number of exempt airplanes will be flying in the future; however, these planes will still be subject to the passenger limitations.

It is generally agreed that additional industrial and high density office development, such as that existing and planned for the South Coast Metro Area, generates additional demand for air travel services - both passenger and freight. Quantification of this impact, however, is a difficult task. Formulas used by the airlines for estimating travel demand are based on areawide statistics on population and income levels.

Air travel for business purposes varies widely depending upon the size and nature of the business. For this reason, prediction of impacts resulting from an individual project, especially when future tenants are not known, is difficult at best, and likely to be quite unreliable.

The presence of the airport immediately adjacent to Costa Mesa places constraints on land use and development in parts of the City. Aircraft noise impacts restrict residential development and necessitate noise attenuation in other new structures in the airport vicinity. Concern for the safety of air navigation also places constraints on construction, especially of high-rise buildings, in the airport area. These subjects are discussed further in the Noise Subelement of the Environmental Resources/Management Element and in the Land Use Element.

As indicated in Table 55, demand for air passenger service from John Wayne Airport is expected to increase dramatically as further development occurs in the area. According to the Final Environmental Impact Report 508 for the John Wayne Airport Master Plan, approximately half of the projected passenger demand in Orange County will be serviced by John Wayne Airport.

TABLE 55
ESTIMATED AIR PASSENGER DEMAND
(Million Annual Passengers)

	<u>Service Area Passenger Demand</u>	<u>Passengers Served By John Wayne Airport</u>
1985	8.57	4.10 (a)
1990	11.06	6.63 (b)
1995	14.13	8.06 (b)
2000	17.56	9.32 (b)
2005	21.84	10.24 (b)

- a. Assumes 55 Average Daily Departures
- b. Assumes 73 Average Daily Departures

Source: Final Environmental Impact Report 508 and Final Environmental Impact Statement for John Wayne Airport Master Plan and Santa Ana Heights Land Use Compatibility Program, February 1985.

GOALS, OBJECTIVES AND POLICIES

The goals, objectives and policies of the Costa Mesa General Plan that address transportation are as follows:

GOAL V: TRANSPORTATION

It is the goal of the City of Costa Mesa to provide for a balanced, uncongested, safe, and energy-efficient transportation system, incorporating all feasible modes of transportation.

160. Require discussion of transit service needs and site design amenities for transit ridership in EIRs for major projects.
161. Require discussion of transportation system management (TSM) and transportation demand management (TDM) measures in all EIRs prepared for major projects.
162. Incorporate bicycle facilities (circulation and storage) into the design and development of all new commercial and industrial projects and public facilities.
163. Require dedication of right-of-way in an equitable manner for completion of adopted bikeway system as condition of development of adjacent properties.
164. Include bicycle lanes on all new bridges along Master Plan of Bikeway designated arterials within or adjacent to the City. In cases where bridges are not located within the City, the City should exert its influence on responsible agencies to include such bicycle lanes. If provision of bicycle lanes is not feasible, measures should be taken to prohibit bicycle riding on bridge walkways.
165. Adopt the State Department of Transportation standards for bikeways with the modifications recommended in the City's 1989 Bikeway Study.
166. Include safe bike trails in road widening projects; provide safe bike trails to schools; provide and expand off-street bike and jogging trails throughout the City where possible.
167. Continue to assign a high priority to energy efficiency in the selection of new City vehicles and equipment, and place particular emphasis on life-cycle cost analysis.
168. Investigate all available operational measures, including the use of one-way streets, to improve traffic circulation and minimize delay and congestion on arterials.
169. Require dedication of right-of-way, in an equitable manner, for development that increases the intensity of land use.

170. Implement citywide and/or areawide transportation system improvement programs on new development and fee programs for new development.
171. Require developers to construct on-site transit facilities or bus bays and/or bus pads consistent with the OCTA Design Guidelines for Bus Facilities on adjacent streets when appropriate.
172. Encourage Costa Mesa businesses to provide employee information to the Orange County Transportation Authority to assist in planning for public transit services.
173. Encourage Costa Mesa businesses to provide their employees with information as to the Orange County Transportation Authority facilities and services and information as to the Master Plan of Bikeways and bicycle facilities.
174. Encourage the development of Park-and-Ride facilities and additional Park-and-Ride routes to serve Costa Mesa through the Orange County Transportation Authority and other resources.
175. Require annual monitoring of employer TDM (transportation demand management) programs which include ridesharing by the Planning Division and annual review of the effectiveness of such programs by the Planning Commission and City Council.
176. Prepare annual report on implementation and effectiveness of the rideshare program for City employees.
177. Encourage the integration of compatible land uses and housing into major development projects to reduce vehicle use.
178. Encourage land uses permitted by the General Plan which generate high traffic volumes to be located near major transportation corridors and public transit facilities to minimize vehicle use, congestion, and delay.
179. Coordinate the design and improvement of pedestrian and bicycle ways with major residential, shopping, and employment centers, parks, schools, other public facilities, public transportation facilities, and bicycle networks in adjacent cities.
180. Pursue acquisition of right-of-way for completion of adopted bikeway system through all available funding mechanisms.
181. Construct bicycle lanes and trails shown on the adopted bikeway plan in areas where sufficient right-of-way exists.
182. Provide sidewalks throughout the City.

183. Provide curb cuts for handicapped access at intersections and other appropriate locations citywide.
184. Adopt a uniform street-naming system to reduce or eliminate the number of continuous streets having more than one name.
185. Adopt a fuel conservation plan to reduce consumption by City vehicles.
186. Attempt to maintain or improve mobility within the City to achieve a standard level of service not worse than Level of Service "D" at all intersections under the sole control of the City with the exception of the following intersection for which Level of Service "D" may not be obtained:
 - Harbor and Gisler
187. Cooperate with the State Department of Transportation and adjacent jurisdictions to maintain or improve mobility within the City to achieve a standard level of service no worse than Level of Service "D" at all intersections under State or joint control with the exception of the following intersection for which Level of Service "D" may not be obtained.
 - Bristol and Sunflower
- 187A. While the intersections of 1) Harbor and Gisler and 2) Bristol and Sunflower may exceed LOS "D", the City shall work to ensure that the future ICUs do not exceed those identified in the General Plan.
188. Place priority on improving parallel streets and intersections, completing the Master Plan of Bikeways, and improving transit opportunities or reducing densities in the areas surrounding identified deficient intersections.
189. Reduce or eliminate intrusion of commuter through traffic on local streets in residential neighborhoods.
190. Prioritize intersection improvements which improve through traffic flow on major, primary, and secondary arterials, and reduce impacts on local neighborhood streets with due consideration to pedestrian safety.
191. Adopt by City Council resolution, a list of comprehensive trip generation rates to be used in traffic analyses of specific project proposals.
192. Maintain balance between land use and circulation systems by phasing new development to levels which can be accommodated by roadways existing or planned to exist at the time of completion of each phase of the project.
193. Continually upgrade traffic controller equipment to optimize signal efficiency.
194. Work closely with the State of California and other government agencies to control traffic-related impacts of

uses on State- or other agency-owned land (i.e., Fairgrounds, Swap Meet, Amphitheater, Orange Coast College, etc.).

195. Council shall review the cooperative study to delete the Gisler Avenue and 19th Street bridges, and downgrading East 19th Street every 60 days or more often if needed. Upon completion of the cooperative study, the City shall process a General Plan Amendment to delete the bridges and the widening of East 19th Street from the City's Master Plan of Highways. All future development applications submitted to the City shall be reviewed in such a way that the 19th Street and Gisler Avenue bridges, and the widening of East 19th Street, will not be included as mitigation measures.
196. Initiate studies to determine any necessary land use amendments which would occur upon bridge deletion.
197. Initiate studies to consider downgrading Baker Street between Fairview Road and Harbor Boulevard, Del Mar Avenue, 22nd Street and Santa Isabel Avenue.
198. Minimize circulation improvements that will necessitate the taking of private property on existing developed properties.
199. Encourage Orange County to downgrade Mesa Verde Drive, Baker west of Harbor, and Gisler to a designation less than a commuter highway in the Master Plan of Arterial Highways.
200. To help buffer residential neighborhoods, provide drought-resistant landscaped medians and green belts along major roadways, arterials, highways and freeways adjacent to residential uses in the City.
201. Pursue with the County of Orange and all other affected agencies an east-west crossing of the Santa Ana River north of the I-405.

GOAL VI: TRANSPORTATION MANAGEMENT

It is the goal of the City of Costa Mesa to provide for standard service levels at signalized intersections by constructing capacity improvements for all various modes of circulation, adopting land use intensities commensurate with planned circulation improvements and implementing traffic demand reduction programs, thereby creating a more energy efficient transportation system.

Objective VI-A: To provide standard service levels by constructing and/or enhancing capacity of the master planned circulation system of freeways and arterial highways.

202. Coordinate with CalTrans and adjacent cities to construct access and mainline improvements along I-405, both in the City of Costa Mesa and in adjacent cities.

203. Coordinate with CalTrans, Orange County Transportation Authority, John Wayne Airport, the County of Orange, and the Transportation Corridors Agency to complete and improve the interchanges of Route 73 (the San Joaquin Hills Toll Road) with Route 55 (the Costa Mesa Freeway), and Route I-405 (the San Diego Freeway).
204. Coordinate with CalTrans to complete extension of Route 55 (the Costa Mesa Freeway) from 19th Street to the southern City boundary, incorporating a transition back into Newport Boulevard north of 15th Street/Industrial Way.
205. Coordinate with CalTrans to implement a freeway congestion incident detection and management program. This program may involve the restriction of heavy truck traffic to nonpeak periods.
206. Consider the feasibility of restricting heavy truck traffic to nonpeak periods on City streets.
207. Coordinate with the Orange County Transportation Authority on and with adjacent jurisdictions to improve signal timing and coordination along major arterials.
208. Coordinate concept design, final engineering, and construct improvements to provide peak hour intersection operation not worse than Level of Service "D" at intersections under the sole control of the City except at the following intersection:
 - Harbor and Gisler
209. Pursue agreements with CalTrans to interconnect off-ramp signals with the City's master signalized intersection system.
210. Continue to work with CalTrans to synchronize and coordinate traffic signals on arterials at intersections controlled by CalTrans.
211. Develop a methodology for forecasting trip generation for mixed-use developments.
212. Continue to evaluate and pursue design and operational improvements (medians, driveway closures, signal synchronization or phasing, parking or turn restrictions, etc.) to improve the efficiency of intersections to more closely approximate theoretical carrying capacities.

Objective VI-B: To promote the use of nonsingle-occupant vehicular modes of transportation in and through the City.

213. Coordinate with OCTA to construct the planned transitway along Route 55 and I-405.

- 214. Coordinate with OCTA to construct bus turnouts at appropriate locations with attractive shelters designed for safe and comfortable use.
- 215. Coordinate with OCTA for ridematching services for major employers and/or activity centers, with an emphasis placed on the development for origin parking programs.
- 216. Coordinate with major employers to gain support for an implementation of transportation management rideshare programs. Program components may include flex-time, transit subsidies, and improved communications.
- 217. Identify existing and proposed fixed guideway transit lines and facilities in and around major new developments and encourage participation in the construction of such facilities or the inclusion of such facilities into new project designs.

Objective VI-C: To invest capital via a rationally phased allocation process for implementing transportation projects and programs.

- 218. Complete and annually maintain a needs assessment for traffic service levels and traffic safety.
- 219. Develop and annually update a priority list of improvement projects, with priorities based on 1) correcting identified hazards; 2) improving/maintaining peak hour operation to standard LOS; 3) improving efficiency of existing infrastructure utilization; and 4) inter-governmental coordination.

Objective VI-D: To promote intergovernmental coordination on transportation projects and programs.

- 220. Continue to participate in countywide and/or local intergovernmental transportation planning and growth management efforts.
- 221. Prepare and adopt a Growth Management Element that is consistent with the requirements of the County of Orange Revised Traffic and Growth Management Ordinance.
- 222. Continue to participate in the countywide Congestion Management Program to maintain City eligibility for gas tax revenues authorized by State Congestion Management Program legislation.
- 223. Prepare and adopt a City Congestion Management Program that is consistent with the countywide and State Congestion Management Program legislation.

Objective VII-E: Ensure correlation between buildout of the General Plan Land Use Map and the Master Plan of Highways.

- 255. Building densities/intensities for proposed new development projects (based on floor area ratio standards

in the General Plan) shall not exceed the trip budget for such uses.

256. Allow the application of transportation management rideshare programs, integration of complementary land uses, and other methods to reduce project related average daily and peak hour vehicle trips in order to achieve consistency with the allocated trip budget.
257. Require a Conditional Use Permit that is reviewed annually for the approval of a transportation management program or similar method to reduce project related trips.
258. Develop implementing procedures and/or an ordinance that ensures that future change of land uses will not cause the approved maximum building intensity for a project and/or parcel to be exceeded.

REFERENCES

1. General Plan, City of Costa Mesa, 1991.
2. Countywide Growth Management Program Implementation Manual, Orange County Regional Advisory and Planning Council, 1991.
3. Congestion Management Program for Orange County - Preparation Manual, County of Orange, 1991.
4. Prospectus for the Central Orange County Fixed Guideway Project, Cities of Santa Ana, Anaheim, Costa Mesa, Irvine and Orange, 1990.
5. Airport Environs Land Use Plan for Orange County, Airport Land Use Commission for Orange County; 1988.
6. Final EIR 508 and Final EIR for John Wayne Airport Master Plan and Santa Ana Heights Land Use Compatibility Program; Orange County 1985.
7. Final Environmental Impact Reports for:
 - Del Mar Alternatives (No. 1024), April 1986
 - Town Center Traffic Study and Final EIR for Town Center Drive Abandonment (No. 1027), February 1986
 - Home Ranch (No. 1029), January 1986
 - Sakioka Farms (No. 1032), September 1986
 - Victoria Street Widening (No. 1033), March 1987
 - Monrovia Avenue Closure to Through Traffic (No. 1035), March 1987
8. "Unlocking Suburban Gridlock"; Robert Cervo; APA Journal; Autumn 1986.
9. Fixed Route Performance Summary, May 31 - June 30, 1986, Orange County Transit District.
10. Vehicle and Headway Summary, March 1, 1987, Orange County Transit District.
11. Costa Mesa General Plan Traffic Analysis, Austin-Foust Associates, Inc., April 1991.
12. Costa Mesa Traffic Analysis, Traffic Model Description, Austin-Foust Associates, Inc., March 1989.
13. Persons and Organizations Consulted:
 - David Sorge, Associate Transportation Engineer
 - George Britton, Airport Land Use Commission
 - Linda Miller, Environmental Coordinator, OCTA

The background of the page is a photograph of a stone wall with a grid-like pattern of mortar joints. To the right of the wall, there are several trees with dense foliage. The overall color palette is muted, with various shades of gray, brown, and green.

City of
COSTA MESA

LAND USE
ELEMENT

LAND USE ELEMENT

LAND USE

LAND USE INVENTORY

The original General Plan for the City of Costa Mesa was prepared in 1957 and contained a Master Zoning Plan which divided the City and its projected sphere of influence into seven land use categories. In 1970, a new General Plan was prepared which presented ten land use designations. This plan was revised in 1981, and included eleven land use designations. This plan incorporates a total of 13 designations.

Table 56 summarizes the acreage in the City and sphere of influence according to General Plan Land Use designations as of the adoption of the 1990 General Plan. The total of 599 acres of undeveloped land is also presented by land use designation.

TABLE 56: LAND USE DESIGNATIONS (1990)

	Residential Density DU/Acre	Floor Area Ratio	Acres Developed	Acres Undeveloped	Total Acres	% of City
Low Density Residential	<8	-	2,282.0	1.0	2,293	28.3
Med. Density Residential	≤12	-	763.0	53.0	816	10.1
High Density Residential	≤20*	-	810.0	46.0	856	10.6
Neighborhood Commercial	-	0.25 Retail/ 0.35 Office	94.5	0.5	95	1.2
General Commercial	-	0.30 Retail/ 0.40 Office	581.0	14.0	595	7.4
Commercial Center	-	0.35 Retail/ 0.45 Office	38.0	3.0	41	0.5
Regional Commercial	-	0.652/0.89**	115.0	0.0	115	1.4
Urban Center Commercial	-	0.50 Retail/ 0.60 Office	102.0	72.0	174	2.1
Industrial Park	-	0.40	704.0	69.0	773	9.5
Light Industry	-	0.35	385.0	6.0	391	4.8
Public and Semi-Public	-	0.25	959.0	334.0	1,293	16.0
Golf Course	-	<0.01	502.0	0.0	502	6.2
Fairgrounds	-	<0.10	150.0	0.0	150	1.9
TOTAL			7,495.5	598.5	8,094	100.0

* See High Density Residential text regarding an area in North Costa Mesa where the density allowance is 25 to 35 DU/acre.

**See Regional Commercial text.

Residential Areas

The Low Density Residential land use designation covers 28.3 percent of the net acreage of the City and its sphere of influence. This high percentage of low density is not unique to Costa Mesa, but is found throughout several communities in Orange County. The accelerated demand for suburban homes experienced in the mid 1950's and 1960's resulted in the conversion of thousands of agricultural acres to large single-family housing tracts. Today this use remains predominant in Costa Mesa. Large scale single-family development has concluded in Costa Mesa with only 1 acre of undeveloped Low Density Residential acreage remaining. New single-family development is expected to take the form of small-lot subdivisions on in-fill sites, especially in the area east of Newport Boulevard.

Commercial Areas

Commercial use is indicated for 12.6 percent of the City's land area. This percentage is a significant increase over the City's earliest estimates of commercial potential. This increase is largely the result of the fact that Costa Mesa's retail commercial areas have grown to accommodate more than local needs, serving a substantial portion of the region.

The 1,020 acres designated for commercial uses contain approximately 9.7 million square feet of commercial space. These uses are spread throughout the City, divided into five commercial use designations. South Coast Plaza contains the largest single concentration of retail uses in the City. It accounts for 30 percent of the City's commercial square footage and 25 percent of the retail sales. Within this same area, the development in the Town Center district contains 20 percent of the City's office space.

The Harbor Boulevard commercial district encompasses almost one-third of Costa Mesa's commercial land. Designated by the General Plan as General Commercial with some Neighborhood Commercial, this district is responsible for a significant 40 percent of retail sales, indicating that Harbor Boulevard's trade area is of regional, rather than local scale. A major factor for this regional service area is the concentration of new car dealerships on Harbor Boulevard.

The 92-acre East Seventeenth Street commercial district contains a variety of retail commercial uses of generally less intensity than those found on Harbor Boulevard. One-tenth of the City's retail sales is attributable to East Seventeenth Street businesses.

The above three commercial areas are responsible for 75 percent of retail sales. The Newport Boulevard commercial area is responsible for 7 percent of retail sales.

Industrial Areas

Industrial use is indicated for 1,164 acres of land in Costa Mesa (Table 57). These uses are primarily concentrated in three major districts: the Southwest District, the Airport Industrial Area, and the North Costa Mesa Industrial District. The Southwest District is the City's oldest industrial areas and the two other areas are more recently developed industrial parks located in the northwest and northeast sections of the City.

The Southwest District contains 342 acres of the City's land designated for Light Industry. This represents 87 percent of the 391 acres designated for such use. This area contained a substantial amount of industrial development before the City was formed. The area contains several large manufacturing firms as well as a high percentage of smaller industrial operations, frequently in multi-tenant structures. Because of the large number of manufacturing businesses, both large and small, which have

located in this area, the Southwest District is one of Costa Mesa's major employment centers. Information available from the California Employment Development Department indicates that one-fourth of the City's employees engaged in manufacturing work in this area. Forty-one percent of the manufacturing employers were also found to be located in this district.

Bounded by the San Diego, Costa Mesa and Corona del Mar Freeways and the airport is 370 acres designated as Industrial Park, often referred to as the Airport Industrial Area. This area is a portion of the much larger Irvine Industrial Complex which extends into the cities of Irvine and Tustin, although the previously mentioned borders provide this area with its own distinctiveness as a part of Costa Mesa. This area is characterized by large parcels and wide landscaped setbacks. Several firms have located their main or regional headquarters in the area and are often the single tenants in large structures.

Multi-tenant and industrial/office condominium developments have become increasingly popular within the Airport Industrial Area. The demand for business and professional office space has experienced a pronounced increase in recent years. Currently, almost 1.7 million square feet of office space exist in the area. Although the area is designated "Industrial Park", over 50 percent of the City's office space is located in this area.

This industrial park has the further advantage of having been under one ownership. The Irvine Company subdivided the property into parcels frequently larger than the minimum requirements of the zoning. The subdivided parcels have been either leased or sold, with the Irvine Company retaining control over the subsequent development through conditions in addition to the City's development standards. Although subdivision and development have been relatively recent, only about 1 percent of the Airport Industrial Area remains vacant.

The third industrial area in Costa Mesa is the 411-acre industrial park located between the San Diego Freeway, Fairview Road, the Santa Ana River, and the northerly City limits. Like the Airport Industrial Area, the North Costa Mesa Industrial District benefits from the fact that most of the land was originally held under a single ownership. This district is a part of a larger industrial area which extends northward into the City of Santa Ana. To date, the primary users of this industrial area have been large single-tenant manufacturing firms and corporate offices.

Included within this district is the 65-acre portion of Home Ranch area located north of the I-405 and south of South Coast Drive. This area is presently in agricultural production and is one of the few remaining large parcels in the City available for urban development.

The remaining 41 acres of industrial land are designated for Light Industrial uses and are located in five smaller pockets in various sections of the City. These areas are generally characterized by

small parcels in areas which were designated as industrial by the City's original Master Zoning Plan in accordance with the existing uses.

TABLE 57: INDUSTRIAL AREAS (1990)

<u>Industrial Area</u>	<u>General Plan</u>	<u>Total Acres</u>
Southwest	Light Industry	342
Airport	Industrial Park	370
North	Industrial Park	411
Other	Light Industry	<u>41</u>
TOTAL		<u>1,164</u>

Public and Semi-Public Areas

Costa Mesa contains an unusually high percentage of land designated as Public and Semi-Public. A total of 1,293 acres in the City and its sphere of influence has been specified for public and quasi-public use. When combined with the similar Golf Course designation and Fairgrounds designation, these uses constitute a large percentage of the City.

This high proportion is primarily the result of past actions of various governmental entities. The development of the Santa Ana Army Air Base during World War II was the first major land acquisition by a governmental agency. This site has since been divided, remaining mostly in public ownership. The current public or quasi-public users of the site are: Orange Coast College, Costa Mesa High School, Davis Middle School, Presidio Elementary School, TeWinkle Park, the National Guard Armory, Orange County Fairgrounds, Civic Center Park, City Hall, and Southern California College.

A second major land acquisition by the State also preceded the formation of the City, and was responsible for the public ownership of Fairview Developmental Center, the Costa Mesa Golf and Country Club, and the Fairview Regional Park. In 1950, 750 acres had been acquired for a State mental institution. Today the Fairview Developmental Center occupies 111 acres of the original site. The ownership of the Golf Course and most of Fairview Park belong to the City. Acquisitions by the City and County have expanded this area of public land to include the Talbert Regional Park Site adjacent to the Santa Ana River and the adjoining City Canyon Park.

Three golf courses exist within Costa Mesa and its sphere of influence. The previously mentioned Costa Mesa Golf and Country Club is the only one of the three which is open to the public. The two remaining golf courses are private.

The 150-acre Orange County Fairgrounds is owned by the State of California over which the City has limited land use control. The site is developed with an outdoor amphitheatre, exhibit halls, and memorial garden. The Fair Board has a master plan which depicts the future development of the site.

LAND USE BALANCE

The designation and regulation of land use often generates controversy. This section concentrates on development-related issues which have been recurring subjects of concern. Certain issues are of regional or citywide scale, while others apply primarily to individual sections of the City.

Balance of Land Uses

Promoting a balance among uses is one of the primary purposes of a Land Use Element. It is recognized that the diverse needs of society require that land be designated for different uses in order to accommodate these needs. Human beings need places to live, work, shop, relax, and play. Other uses, such as open space and agriculture, are also necessary to support urban life and maintain environmental quality. Providing sufficient quantities and locations of land for the various human uses and needs is a key ingredient of a functional urban environment.

Housing and Employment Projections

Providing a land use arrangement which encourages a correlation of employment and housing opportunities is a local and regional responsibility. Providing sufficient commercial land to support residential development is primarily a local responsibility, although commercial uses which serve regional needs are often provided as well. Sufficient land must also be established to meet the recreational needs of the local community, although regional needs are often accommodated by land within individual cities. Table 58 presents data regarding Costa Mesa's population, number of housing units, and employment opportunities, with projections beyond the year 2010. Based upon these projections, the extent to which existing and future population, housing, and employment are in balance can be examined.

TABLE 58: POPULATION, HOUSING AND EMPLOYMENT

	1980-2010			
	<u>1980</u>	<u>1985</u>	<u>1990</u>	<u>Post 2010</u>
Population	82,562	85,127	94,900	107,350
Housing	33,998	35,326	39,000	45,200
Employment	56,828	73,372	87,553	97,400

Comparing the data and estimates in Table 58, the ratio between persons residing in and persons employed in the City shows a continued decline through 2010. In 1985, 1.17 persons lived in Costa Mesa for each person who worked here. The ratio is estimated to decrease further to 1.09 in 2010.

Local Comparison of Land Use Balance

Since people do not restrict all of their functions to one city, an examination of the manner in which other cities have divided their land for various uses is appropriate. Table 59 compares the major General Plan land uses of Costa Mesa with neighboring cities by acreage and percentage of each city (including sphere of influence) allocated for the uses.

A balance between residential and employment opportunities promotes the possibility for people to live and work in the same area. The allocation of land for residential and employment-generating uses is a primary tool which local governments can use to encourage such a balance. Costa Mesa and its five neighboring cities have allocated a total of 38,857 acres for residential purposes and 19,171 acres for commercial and industrial, the main employment-generating uses. The remaining 23,560 acres are designated for public, agricultural, and other uses. This results in 2.03 acres of land being specified for residential development for each commercial or industrial acre. Costa Mesa's ratio is somewhat less than this average, at 1.81 residential acres per employment generating acre. However, Costa Mesa does designate a significantly greater portion of its land for Medium and High Density Residential development than any of the adjoining cities. Forty-two percent of all residential land in the City is specified for such uses. The availability of land for multiple-family development is also an important factor in the balance of uses. Since a substantial number of persons employed within Costa Mesa and its neighboring cities do not have the family size or the economic means to warrant or acquire a home in a low density area, the establishment of an adequate portion of higher density areas is one method by which a range of housing types and costs can be encouraged.

Job/Housing Balance

The current balance of land use determines in part the ability for people to live near their place of employment, to shop within a reasonable distance from their homes or work, to use areas set aside for recreation, and to conveniently carry out other activities desired in an urban environment. Information available from the 1980 Census indicates that 31 percent of the employees who reside in Costa Mesa work in the City. An additional 34 percent work within 20 minutes of their homes. Thus, 65 percent of Costa Mesa's employee population in 1980 were able to establish residence within a reasonable distance to their employment.

TABLE 59: LAND USE ELEMENT COMPARISON

	<u>Residential</u>	<u>Commercial</u>	<u>Industrial</u>	<u>Public</u>	<u>Other</u>
Costa Mesa	3,955 ac. 49%	1,020 ac. 13%	1,164 ac. 14%	1,303 ac. 16%	652 ac. ¹ 8%
Newport Beach	4,539 ac. 58%	1,386 ac. 18%	302 ac. 4%	1,616 ac. 21%	--- ---
Huntington Beach	11,630 ac. 68%	1,286 ac. 8%	1,762 ac. 10%	2,109 ac. 12%	387 ac. ² 2%
Fountain Valley ³	3,345 ac. 75%	480 ac. 11%	650 ac. 14%	--- ---	--- ---
Santa Ana	10,023 ac. 58%	2,166 ac. 13%	3,184 ac. 18%	1,626 ac. 9%	409 ac. 2%
Irvine	5,365 ac. 20%	1,788 ac. 7%	3,983 ac. 15%	10,905 ac. 41%	4,553 ac. ⁴ 17%

1 - Golf Course and Fairgrounds

2 - Planning Reserve, Planned Community, Mixed Use

3 - Fountain Valley does not account for Public/Park Land in Land Use Element. In 1980, an estimate of 675 acres was quoted for public use.

4 - Includes Agriculture

Balance of Industrial and Commercial Uses

Since 1980, the amount of commercial acreage has increased while industrial acreage has slightly declined.

	<u>Commercial Acreage</u>	<u>Industrial Acreage</u>
1980	929 ac. (11%)	1,264 ac. (15%)
1990	1,020 ac. (13%)	1,164 ac. (14%)

In addition, the percentage of undeveloped industrial acreage has decreased from 27.5% in 1980 to 6.4% in 1990. This is comparable to 8.8% of commercial land which is undeveloped.

Current marketplace interest is in high-tech industrial parks and interest is moving away from structures designed for light manufacturing. The high-tech industrial developments are often more similar to an office use than a traditional manufacturing use. This has implications, among other things, for parking requirements and estimates of traffic generation and employment.

There is also increasing marketplace pressure to utilize industrial areas for commercial uses due to lower land costs, product costs, etc. If the trend continues, the balance between commercial and industrial uses may change significantly.

Costa Mesa has established commercial areas, notable along the major arterials, the South Coast Metro Area (north of the I-405), and the Redevelopment Area (in the vicinity of Harbor Boulevard and 19th Street), which could be negatively impacted by the expansion of commercial uses into industrial zones. If commercial users are allowed to use the less expensive industrial space, the commercial zones may then begin to deteriorate as vacancy rates in commercial buildings increase.

LAND USE CONSTRAINTS

Often, the full impact of certain land use constraints is not felt until an area is built to or near the limits of the General Plan designation. Individual projects may not present problems, but the cumulative effect of several developments at a specific intensity could prove excessive. The different types of constraints, along with their impacts and appropriate mitigations, are discussed in the following sections.

Flood Hazards

Approximately 1,725 acres of northern and western Costa Mesa are within a Flood Hazard Area as determined by the Federal Insurance Administration. Thus, in a 100-year flood it is anticipated that 17 percent of the City will be subject to at least 1 foot of flooding. This constraint requires consideration of the types of uses appropriate for areas subject to flooding. The flooding depths in the 100-year flood will range from 1 to 7 feet. Thus, if development is to be allowed in the Flood Hazard Area, the toleration of the uses to inundation must be considered.

Currently, the Flood Hazard Area shown in Figure 60 contains a variety of land uses. Most of the residential uses would be subject to shallow flooding of water depths from 1 to 2 feet, although certain residential properties nearest the Santa Ana River could experience over 3 feet. The majority of the areas subject to inundation over 2 feet are designated for less susceptible uses such as industrial or public use.

In the event of a 100-year flood, approximately 2,664 residential units housing an estimated 6,564 persons would be within areas subject to flooding. Although those constructed within recent years would be elevated to or above the base flood level, the remainder of the units could be subjected to various levels of flooding. Also affected by flooding would be the North Costa Mesa Industrial District and the lower portions of the Talbert-Fairview Regional Park site. The industrial properties would experience 2 to 3 feet of flooding. This would have its greatest impact on those structures built prior to 1977 which are not elevated or floodproofed. The 1985-86 assessed value of all structures in the Flood Hazard Area is \$603,659,957. The Fairview and Talbert Regional Park sites, in their current undeveloped state, would be subject to minimal damage.

Geologic Hazards

Costa Mesa is subject to earthquake activity (as is most of southern and coastal California). Additionally, certain areas are prone to liquefaction or earth slippage which could be triggered by an earthquake. It has been found that the potential for liquefaction is highest in the lowlands adjacent to the Santa Ana River. Northern and western Costa Mesa have a moderate liquefaction potential. Slope stability is a potential hazard only along the bluffs above the Santa Ana River. Certain areas, primarily near the Santa Ana River, have been found to have a comparatively unstable type of peat soil.

Under current land use configurations, the areas of high liquefaction potential are undeveloped and the majority is under public ownership. Thus, no developed area is threatened by a high risk of ground failure due to liquefaction. Areas which have a moderate potential for liquefaction contain a substantial number of structures, of which the heavier would be exposed to the greatest possibility of damage.

Earthquake-triggered slippage of slopes could threaten those structures which have been constructed on or near the bluffs to the east of the Santa Ana River. Natural or development-induced erosion of the slopes could also pose a danger to these structures.

Much of the area with peat soil is as yet undeveloped or developed with uses which would not be adversely affected by an unstable soil (Golf Course). Development in areas where this soil type was found has required removal of the peat prior to construction.



Both natural and man-made constraints influence land use decisions. Natural constraints include geologic stability and flood hazards. The capacity of public utility infrastructures and high noise environments are two man-made constraints which influence the type and intensity of use.



FLOOD HAZARD AREA

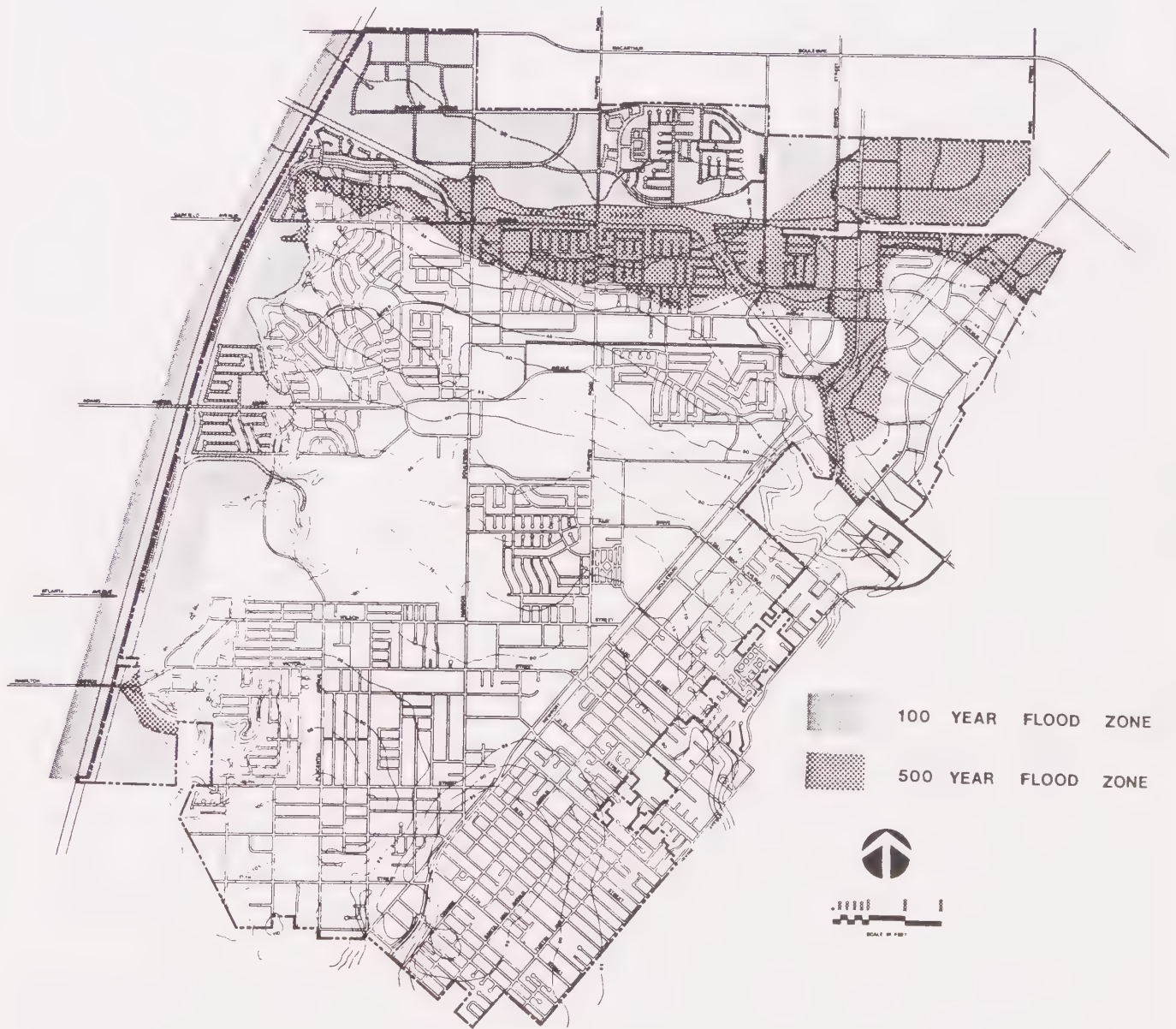


FIGURE 60



Earthquake activity is a city and statewide concern. Mitigation of earthquake impacts and the other geologic impacts they may induce can be best accommodated on a local level through determining the type and location of potential geologic impacts.

Noise

The Noise Subelement of the Environmental Resources/Management Element defines noise as unwanted sound. Although this definition could encompass a wide spectrum of sound types, the most commonly agreed upon major noise sources in Costa Mesa are traffic and aircraft. Thus, existing and future noise levels have been examined for their potential impacts on areas of the City.

The impact of traffic and aircraft noise would be primarily experienced in those areas nearest the source. Commercial and industrial uses are generally more tolerant of noise impacts. Residential uses in addition to having indoor living spaces, also have outdoor recreational areas which are more susceptible to noise impacts. Thus, the noise impact is measured by the number of dwelling units within a high noise environment. The 65 CNEL (Community Noise Equivalent Level) contour has been selected to quantify the impact of traffic noise in Costa Mesa. Title 25 of the California Administrative Code specifies that multi-family residential development within the 60 CNEL contour requires acoustical treatment to ensure that acceptable interior noise levels are achieved. The airport and its effects on Costa Mesa's land use planning are discussed in the Airport Considerations subsection.

Air Quality

Excessive concentrations of air pollutants are typically found adjacent to major transportation corridors. These excessive concentrations occur on a temporary, but cyclical, basis, associated with traffic volumes and climatic conditions.

There may also be occasional citywide experiences of unacceptable air quality. These occurrences are generally the result of particular atmospheric conditions and regional air pollution, for which development and activity within the City are partially responsible.

Public Service Limitations

The ability of the public utility and service systems to serve an area is a possible constraint which may influence the type and density of land use. Often, this is not a concern in examining a single project, but becomes of greater concern as the cumulative effect of several projects causes demands upon the utility systems to approach or exceed their capacity. Of concern in determining the appropriate use or intensity for an area are the capacities of the water, electric, gas, sewage, and telephone systems as well as police and fire services, school capacity, etc.

The infrastructures for utility systems were often established in accordance with demands existing or anticipated at the time of installation. Development in excess of that which the system was designed to serve will necessitate future reconsiderations.

Because of Costa Mesa's location within the urbanized portion of Orange County, utility services are readily available. Generally, all serving utility companies/districts have sufficient capacity to meet the demands of projected development provided by the General Plan. While this general statement is valid for the City as a whole, deficiencies do exist on a smaller scale related to water supply for fire protection purposes and to sewer service capacity which can be corrected as new development or redevelopment occurs in these areas. Also, periodic reinforcements of existing facilities will be necessary to keep pace with increased demand or the age of existing service delivery systems.

In order to enable public utility companies and districts to plan for future infrastructure capacities, information pertaining to the type, intensity, density, and location of uses envisioned by the General Plan is provided to each serving utility. Major amendments to the Land Use Element are reported to these companies and districts in order that their Master Plans may be adjusted accordingly.

In addition, the capacities of utility and service systems must be examined whenever significant Land Use Element amendments are being considered. Since capacity limitations have been identified in the water supply system for fire protection purposes may be addressed by limiting the type, density, or intensity of land use to those which can be served by the existing systems; on-site mitigation measures can be applied to individual developments, which may or may not fully mitigate the impact; or the water supply system may be altered in accordance with anticipated development. Since limitations are also encountered in the sewer system, limitations on the uses for such areas may be appropriate, or the system may be upgraded to accommodate the anticipated development.

Airport Considerations

Both the Federal Aviation Administration (FAA) and the Airport Land Use Commission for Orange County have concern for the safety of air navigation in the airport area. Under Part 77 of the Federal Aviation Regulations (FAR), the FAA requires notice of proposed construction in excess of certain heights which may affect the safety of aircraft operation. Part 77 defines "obstruction to air navigation" and provides for studies and hearings to determine whether such an obstruction may be a hazard. The authority of the FAA in these matters extends only as far as issuing a notice of hazard to air navigation; the FAA does not have jurisdiction to prohibit construction. The issuance of a hazard notice, however, may adversely affect the ability of a developer to obtain financing and insurance.

Following are summaries of the standards for determining obstructions as they apply to John Wayne Airport. Section and Paragraph numbers and letters refer to FAR Part 77.

Section 77.13 Construction or Alteration Requiring Notice.

- (a) A sponsor who proposes any of the following construction or alteration shall notify the FAA.
 - (1) Any construction or alteration of more than 200 feet in height above the ground level at its site.
 - (2) Any construction or alteration of greater height than an imaginary surface extending outward and upward at one of the following slopes:
 - (i) 100 to 1 for a horizontal distance of 20,000 feet from the nearest point of the nearest runway of each airport (John Wayne Airport) with at least one runway more than 3,200 feet in actual length, excluding heliports.
 - (4) When requested by the FAA, any construction or alteration that would be in an instrument approach area (defined in the FAA standards governing instrument approach procedures) and available information indicates it might exceed a standard.

Section 77.23 Standards for Determining Obstructions.

- (a) Any object exceeding the following heights:
 - (1) 500 feet above ground level at the site.
 - (2) 200 feet above ground level or established airport elevation (John Wayne Airport = 53.68'), whichever is greater, within 3 nautical miles of established reference point of airport. Height increases 100 feet for each additional nautical mile of distance from airport, up to a maximum of 500 feet.

Section 77.25 Civil Airport Imaginary Surfaces (Figure 61).

- (a) Horizontal surface -- horizontal plane 150 feet above established airport elevation, perimeter defined by 10,000 foot radius from center of each end of runway with the two arcs connected by a tangent.

IMAGINARY SURFACES FOR JOHN WAYNE AIRPORT- ORANGE COUNTY

LEGEND

APPROACH
SURFACES



SLOPE

50:1



40:1

TRANSITIONAL
SURFACE



7:1

HORIZONTAL
SURFACE



CONICAL
SURFACE



20:1

HELIPORTS



SAMPLE ALTITUDES

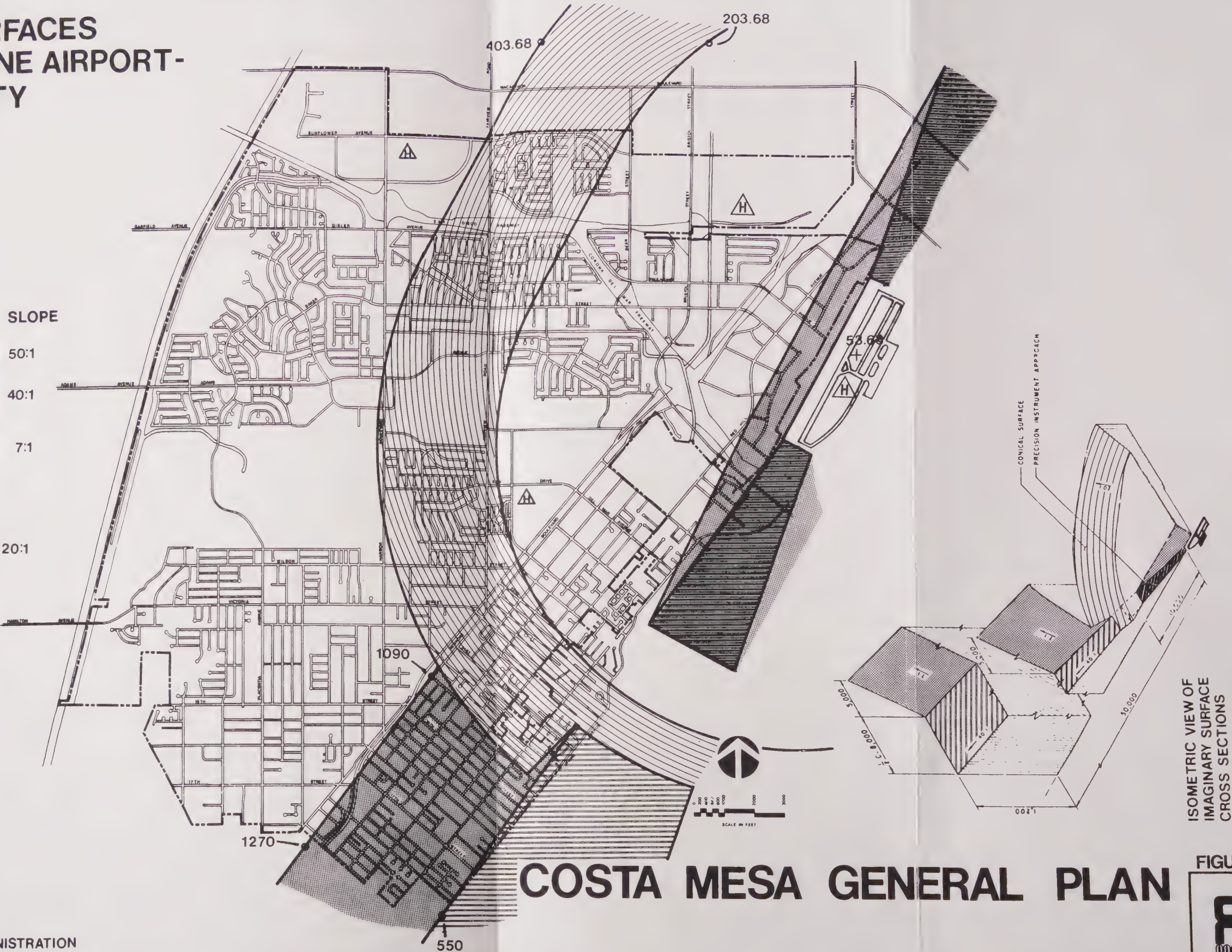
550 -

AIRPORT GROUND
ELEVATION REFERENCE
POINT

53.68 +

ALL REFERENCE MARKS ARE RELATIVE TO
SEA LEVEL

Sea level: 0.00



COSTA MESA GENERAL PLAN

FIGURE 61

SOURCES: FEDERAL AVIATION ADMINISTRATION



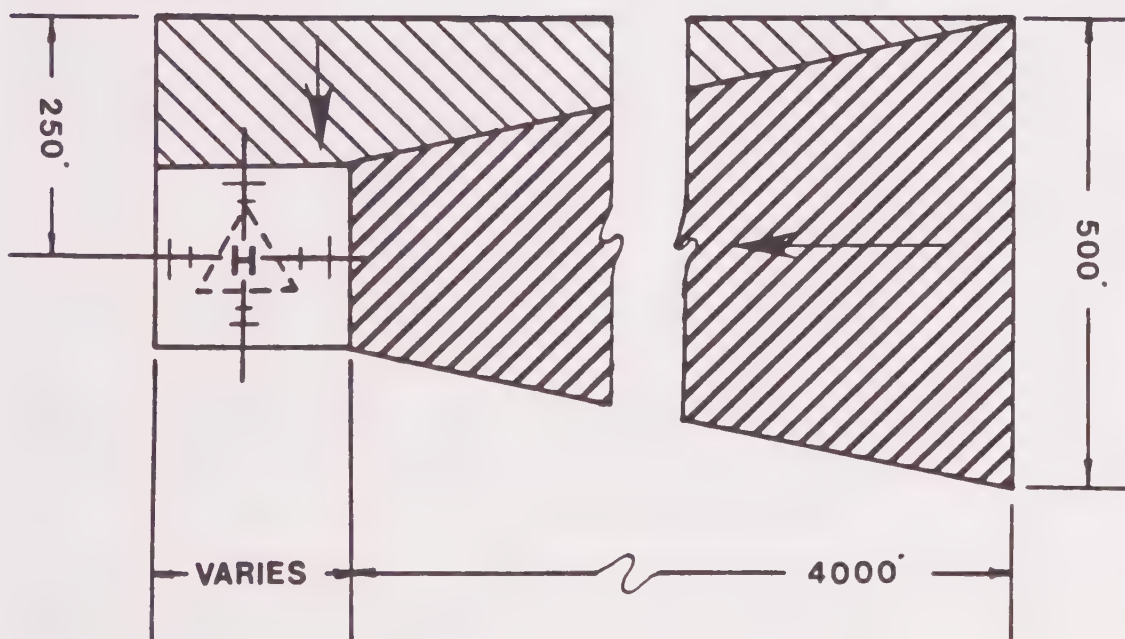
- (b) Conical surface -- surface extending outward and upward from edge of horizontal surface at a slope of 20 to 1 for a horizontal distance of 4,000 feet.
- (c) Primary surface -- surface at runway elevation extending (in the case of John Wayne Airport) 500 feet on either side of runway centerline and 200 feet beyond end of paved runway surface.
- (d) Approach surface -- surface extending outward and upward from end of primary surface for a horizontal distance of 50,000 feet (in the case of John Wayne Airport), with width expanding from width of primary surface to 16,000 feet (in the case of John Wayne Airport). (Costa Mesa is not directly affected by the approach surface.)
- (e) Transitional surface -- surface extending outward and upward from edge of primary surface at a slope of 7 to 1 until intersecting with horizontal surface. The surface also extends outward and upward from edge of approach surface at a slope of 7 to 1, where approach surface projects through and beyond conical surface, for a width of 5,000 feet horizontally from edge of approach surface.

Section 77.29 Airport Imaginary Surfaces for Heliports (Figure 62).

- (a) Primary surface -- surface coinciding with size, shape, location, and elevation of take-off and landing area.
- (b) Approach surface -- begins at edge of primary surface with same width as primary surface and extends outward and upward at a slope of 8 to 1 for a horizontal distance of 4,000 feet to a width of 500 feet.
- (c) Transitional surface -- surface extending outward and upward from lateral edge of primary surface and approach surfaces at a slope of 2 to 1 for a horizontal distance of 250 feet from centerline of primary and approach surfaces.

The California Public Utilities Code provides for creation of countywide commissions to work towards achieving compatible land uses in the vicinity of airports. Power and duties include study of conditions, conduct of public hearings and making of recommendations regarding building height and other land use restrictions to assure the safety of air navigation and to assure compatibility of surrounding land uses with airport operations. Commissions are also required to formulate comprehensive land use plans which may include acceptable uses, height restrictions, and other building standards, such as noise insulation.

IMAGINARY SURFACES FOR HELIPORTS



APPROACH SURFACE, LENGTH = 4000', SLOPE = 8:1 OR 12.5%



TRANSITIONAL SURFACE, WIDTH = 250', SLOPE = 2:1 OR 50%



FIGURE 62

NOTE: NUMBER AND DIRECTION OF APPROACH PATHS ARE DETERMINED AFTER REVIEW OF HELIPORT LICENSE APPLICATION.



The Airport Land Use Commission for Orange County (ALUC) has established a planning area surrounding John Wayne Airport coincident with the boundaries of the imaginary surfaces. The Airport Environs Land Use Plan (AELUP) sets forth standards for acceptable land uses and provides for review of development plans for properties within its planning area.

The standard of the Federal Aviation Administration most likely to be of concern in Costa Mesa is the horizontal surface for John Wayne Airport. This surface is 203.68 feet above mean sea level and extends nearly two miles from the airport.

In reviewing the Town Center Master Plan (the area east of Bristol Street and north of the I-405), the City concluded that it could not be responsible for enforcing the regulations or recommendations of other agencies (FAA and ALUC), although impacts on air safety should be weighed in the review of applications for new construction. With this in mind, the master plan was approved subject to the condition that building height be limited to that specified by FAR Part 77 unless evidence is presented that the structure will not pose a hazard to air navigation nor interfere with instrument guidance systems. Evidence may be in the form of an FAA determination of no hazard or a study by a qualified aviation consultant in private practice that has been certified by the FAA as true and correct.

A number of Town Center structures have received City approval although they encroach beyond the established horizontal surface elevation. In all cases obstruction lighting was required, and in some cases minor adjustments to seldom-used flight patterns were necessitated, but the safety of aircraft operation in the airport vicinity was not compromised.

The horizontal surface established by the FAA will place restrictions on future development proposals similar in scale to the Town Center buildings. These developments will also be required to provide mitigation for potential hazards to air safety.

The Airport Environs Land Use Plan, adopted by the Airport Land Use Commission, specifies acceptable uses proximate to the airport. These are defined as those uses which will not subject people to adverse noise impacts, will not concentrate people in areas with high potential for aircraft accidents, and will not adversely affect navigable airspace or aircraft operations. Due to the small number of off-airport accidents in the history of John Wayne Airport, the ALUC found it unnecessary to designate an accident potential zone. The AELUP declares any use to be unacceptable to the ALUC if the use requires review by the FAA (under FAR Part 77) and is found to be unacceptable by the FAA.

Land Availability

Consumption of vacant land produces constraints when availability of land is less than demand. Only a small portion of the land within the City and sphere of influence is undeveloped. When Public and Semi-Public land is removed from the calculation, the portion undeveloped is reduced to 265 acres.

The decrease in undeveloped land increases demands for redevelopment of already built-upon properties. This trend is not new in Costa Mesa, and the extent of private redevelopment can be expected to increase. While past redevelopment of this sort typically involved replacement of older single-family units with multi-family development, certain recent applications have proposed demolition of more substantial development to allow new construction.

In considering possible General Plan Amendments, attention must be given to existing development and to possible impacts on the character of neighborhoods. Since the diminishing quantity of undeveloped land has the potential for causing development pressure on existing developed land, particularly where increased densities may be possible, methods to promote the orderly transition of areas should be developed. Such methods could be in the form of zoning policies, specific plans, and development standards. Similar methods may also be applicable to promote the retention of historic structures, rental housing (particularly the more affordable), substantial mature vegetation, and other existing socially or environmentally significant components of a neighborhood.

REDEVELOPMENT

The following sections discuss private sector redevelopment/recycling of uses as well as public sector redevelopment undertaken under the Community Redevelopment Law.

Many factors - physical, economic, and social - contribute to the need for redevelopment. The necessity for redevelopment becomes evident as the condition of buildings and other physical improvements deteriorate to the point where they create negative impacts or safety hazards. These impacts can often be satisfactorily mitigated by repair and rehabilitation, but occasionally, when combined with other problems and constraints, complete removal of the structures and redevelopment of the site is the most economically feasible approach, in the long run.

The need for redevelopment can become apparent in a number of ways. The most obvious indicators are the visual effect of deteriorating properties due to age and improper maintenance, declining property values, high business turnover rates, declining sales activity, or high vacancy rates.

Private Sector Redevelopment

The role of the City in redevelopment may take the form of providing incentives or assistance for private redevelopment, providing stimuli to spark private improvement activities, or becoming actively involved in public redevelopment projects.

Incentives

The primary incentives the City can offer to encourage private redevelopment on a project-by-project basis are in terms of modified land use regulations. This can involve many aspects of

project design, including increased density, lot coverage and height restriction, or relaxed parking standards. Incentives can be used not only to encourage redevelopment per se, but to influence the type and design of new development.

Parking reductions in the form of overlapping, or shared parking are available for mixed-use developments under the shared parking ordinance.

The possibility of additional permitted uses may also make commercial redevelopment more attractive. Redesignation to more inclusive zones could be an incentive to commercial redevelopment generally, or it could be used to encourage lot combination for new development.

Incentives are available to encourage or direct improvement and remodeling of existing structures as well as new construction. In cases where site design is not adversely affected, there may be advantages in retaining existing buildings, whether or not new structures are added. In addition to conserving resources and materials, existing buildings may contribute to the character of an area or offer a link to the past - evidence of the history and evolution of the neighborhood or the City. The most obvious incentive to the recycling of existing structures is the economic saving to the developer. The City might add to this incentive by favorably considering requests for variances in cases where the existing structure may deviate from current development standards: setbacks, lot coverage, building area, building height, etc. If zoning and building codes prevent or discourage renovation, older buildings may continue to be occupied by nonconforming uses and/or maintained at minimal levels rather than being rehabilitated and recycled.

Financial assistance to owners of properties in need of rehabilitation may ease the burden of making the necessary improvements. Since 1975, Costa Mesa's applications for Community Development Block Grants, under the Federal Housing and Community Development Act of 1974, have included programs of grants and low-interest loans for rehabilitation of low- and moderate-income owner-occupied housing units. Low-interest loans for owner/investors of rental housing is also available when a majority of tenants are low- and very low-income.

Stimuli

Areas often languish because of unimproved or inadequate public facilities. The upgrading of these facilities can act as a stimulus to new development or private property improvement. Paving of streets and alleys; installation of curbs, gutters, and sidewalks; correction of drainage problems; construction of parks; and upgrading or undergrounding of utility services do much to improve the image of a community. As the image is elevated, in the eyes of residents and outsiders alike, the level of pride and interest is raised, and this is often reflected in higher levels of property maintenance and increased improvement activity.

Among the reasons cited for the selection of Redevelopment Project Area No. 1 were deficiencies in the circulation pattern (both design and level of improvement). The Plan sought to stimulate a more orderly development pattern by correcting these deficiencies.

Since adoption of the Redevelopment Plan in 1973, a number of public improvements have been made. The closure of Center Street between Park and Anaheim Avenue allowed expansion of Lions Park north to Plumer Street. A realignment of 17th Street was completed providing improved traffic circulation at the Newport Boulevard/17th Street intersection. Street improvements on Harbor Boulevard were completed and 19th Street between Park Avenue and Harbor Boulevard was widened.

Specific Plan SP-79-01, in early 1979, began the process of improvement of sidewalks, alleys, and water facilities to encourage and accommodate further development and redevelopment in the Wallace/Pomona neighborhood on West 19th Street.

Public Sector Redevelopment

Local governments are authorized to create redevelopment agencies and redevelopment project areas under §33000 et seq of the California Health and Safety Code (Community Redevelopment Law). Redevelopment areas as defined by the declaration of State policy must be designated on the basis of being blighted. Since the time of adoption of Redevelopment Project Area No. 1, the definition of blight has been expanded and has become more explicit.

Blight can be defined in structural and physical terms or in nonstructural and economic terms. Blighted conditions can be identified by overcrowding and by inadequate light, air, sanitary facilities, or open space. Other factors for determining blight are age and deterioration of development, as well as obsolete land use and development patterns. Economic dislocation and depreciated values or conditions which necessitate a disproportionate share of public expenditures are characteristic of nonstructural blight.

State policy further declares that a fundamental purpose of redevelopment is to expand the supply of low- and moderate-income housing and to expand employment opportunities. The concept of redevelopment is based on the premise that public participation and assistance are necessary in order to correct the obsolete and inefficient development and ownership patterns of older communities. The function of redevelopment offers a variety of ways to solve development problems of otherwise undevelopable properties. The redevelopment process allows local government to overcome difficulties and handicaps beyond remedy and control solely by the regulatory processes of police power.

A redevelopment agency is a public body which must be activated by an ordinance of the City Council. The City Council may elect to serve as Board of the Redevelopment Agency or a separate board may be appointed. An agency may execute contracts or conduct those transactions necessary to carry out the redevelopment plan. The



The Costa Mesa Courtyards and Pacific Savings Plaza are two award-winning projects which anchor the Downtown Redevelopment Project Area.



agency may acquire and dispose of property, borrow or receive funds, and make necessary public improvements. A redevelopment agency is not a development corporation but may take whatever means necessary to induce private development.

Redevelopment Project Area No. 1

In the early 1970's, concern began to grow about the physical, economic, and social condition of Costa Mesa's traditional "downtown". The area is identified by the intersection of the two most heavily traveled streets in the City: Harbor Boulevard and Newport Boulevard. Most of the traffic on these streets is headed through the downtown area for destinations elsewhere. This is especially true during summer months when beach traffic on Newport Boulevard creates bumper-to-bumper conditions for nearly the full length of Costa Mesa.

Newport Boulevard is also the division between the north/south streets in the larger part of the City and the eastside streets which have a northeast/southwest orientation. The differing orientations, and the fact that several cross-streets do not properly align at their intersections with Newport Boulevard, combine to make vehicular circulation awkward and sometimes hazardous.

Since it is one of the oldest parts of Costa Mesa, the downtown area contained residential properties in declining condition which were often located adjacent to incompatible uses such as wood-working and machine shops. The original subdivision pattern was such that it did not adapt well to the growth being experienced in Costa Mesa. The large number of small, separately owned parcels made private assembly of land difficult. As a result, residential development occurring in the area consisted primarily of construction of second units on small R2 parcels. The effect was to prolong the older subdivision pattern for the life of the new unit.

As the circulation and subdivision problems were not likely to be solved by private development, establishment of a redevelopment project appeared the most practical solution. On December 21, 1973, the Redevelopment Plan for the Costa Mesa Downtown Redevelopment Project (Project Area No. 1) was adopted by the City Council. (See Figure 63.)

In 1983, the Redevelopment Agency requested that a panel of members of the Urban Land Use Institute (ULI) help to identify a redevelopment strategy for the 200-acre Project Area No. 1. The panel concluded that the "downtown" area needed a strong retail core with medium density residential use surrounding the service and retail activities. Also, the concentration of special services (i.e., auto, boating and home-related services) in the lower end of the project area should be preserved and enhanced. To achieve tangible results, the ULI panel recommended giving high priority to expansion and development of a "superblock" area.

REDEVELOPMENT PROJECT AREA

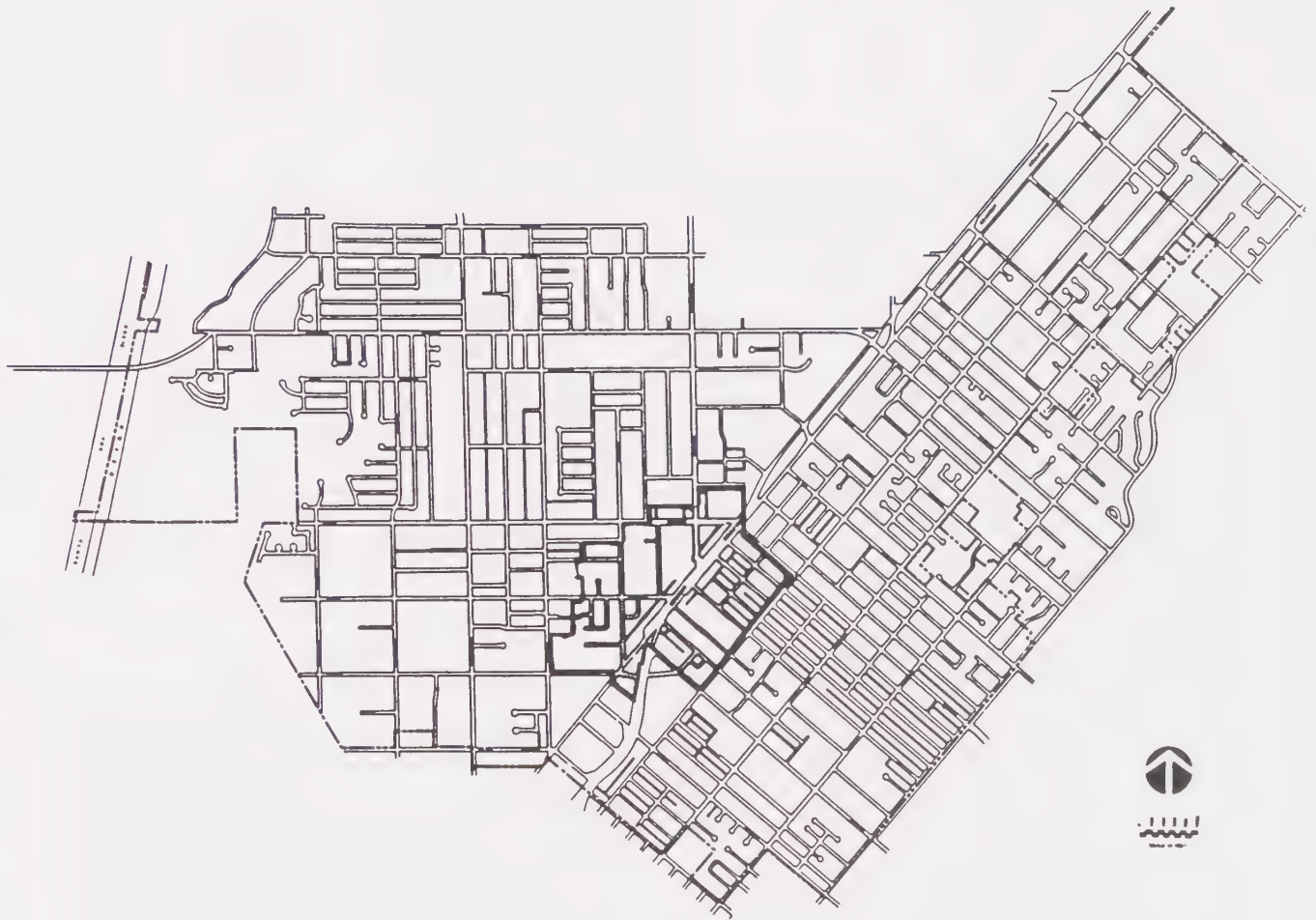


FIGURE 63



Many redevelopment projects have been completed following adoption of the Redevelopment Plan. During the first decade of the Redevelopment Plan, activities centered around public improvements within Lions Park, including construction of a fire station and neighborhood community center. Across from the park, a 75-unit privately owned apartment complex for low- and moderate-income senior citizens was built.

Since 1980, street improvements, including realignment of 17th Street, widening of 19th Street, and Harbor Boulevard redesign and construction, have been completed. The 125,000 square foot Pacific Savings Plaza, housing the Project Area's first major corporate resident, was completed in 1982. Following the ULI study, the 176,000 square foot retail and office complex known as the Costa Mesa Courtyards was constructed in 1985. Facade improvements for 26 store fronts were finished in 1986 to serve as a demonstration rehabilitation project that is consistent with the Redevelopment Design Guidelines.

In 1989, a 185,000 square foot multi-level center (Triangle Square) was approved for the 4.5 acre area bounded by Newport Boulevard, Harbor Boulevard, and 19th Street.

Redevelopment Project Area No. 2

A Redevelopment Plan for Project Area No. 2 was adopted in November 1979. This 65-acre area was known as the Wallace Neighborhood Strategy Area (NSA) under the City's Housing and Community Development (HCD) Program, and was also the subject of Specific Plan SP-79-01. Under the HCD program, a total of 72 housing units were constructed in the area. Assessment districts were established to improve water and sewer facilities as recommended by Specific Plan SP-79-01. No redevelopment projects were initiated by the Redevelopment Agency and Project Area No. 2 expired on December 19, 1984.

RESIDENTIAL AND COMMERCIAL DEVELOPMENT PROBLEMS

Residential Early subdivisions and development in Costa Mesa established patterns which markedly affect the design of current developments. Prior to the City's incorporation, much of the eastside and the westside south of Wilson Street was subdivided into parcels approximately 300 feet deep. Many lots were further divided, resulting in lot widths of 60 to 66 feet. Most of the affected parcels are residential, although a number of commercial properties along the east side of Newport Boulevard and the south end of Harbor Boulevard are included. Many of the lots were vacant for a number of years; development of others consisted mainly of single-family homes with large garden areas.

As the area grew in population and development pressures mounted, construction on these narrow, deep lots took the form of a series of freestanding apartments. Four, five, or six separate one-story units would be constructed - often with an attached one-car garage. The site plan consisted of a driveway along one side of the parcel, units on the other side, and little usable open space except for an often unimproved area at the rear of the lot.

Site planning constraints became obvious in the 1970's when attempts were made to break away from the old patterns. Design flexibility is severely hampered by the size and shape of the parcels which restrict the location of driveways and parking facilities. Overall land use efficiency is compromised by the need to provide separate driveway access to each parcel. Traffic safety is also affected; driveways at 50- to 60-foot intervals can be accommodated without hazard in single-family areas, while in multiple-family districts this pattern creates confusion and conflict due to higher traffic volumes.

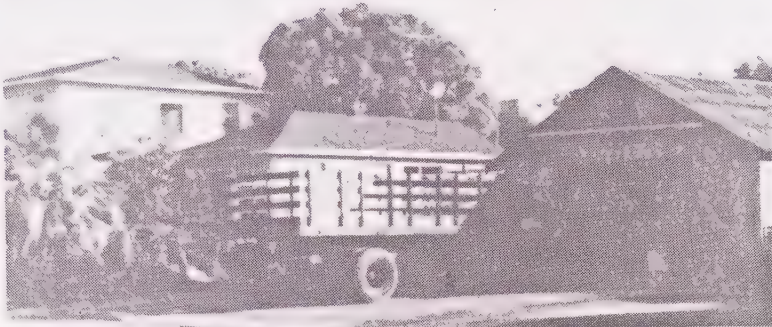
Official concern over the problems associated with development of narrow, deep lots was first expressed in the Victoria Street Specific Plan (SP-76-01) in March 1976. The study area consisted of several 62.5 x 292.5 foot lots on the north side of Victoria Street between Newport Boulevard and College Avenue. Lot combination was encouraged by offering zoning incentives.

Lot combination was again formally encouraged with the adoption of Specific Plan SP-78-02, which concerns properties between Baker Street and Paularino Avenue to the west of Bristol Street. Since its adoption, several parcels along Baker Street have been combined into one development.

The Placentia/Hamilton/Pomona/19th Street Specific Plan (SP-79-01, adopted in May 1979) also established standards designed to encourage assembly of land within the area covered by the plan. This plan also included an alternative to actual combination of parcels. Provision was made to allow increased density on separate, smaller parcels if two or more are developed as a single project. This unified development concept, illustrated in Figure 64, permits maintenance of separate ownerships while allowing the design flexibility of a larger site. Through the use of easements, deed restrictions, or other means, shared driveways, walkways, parking, and open spaces give the impression of a single, unified development. Consistent architecture and landscaping assist in achieving the intent and purpose of lot combination.

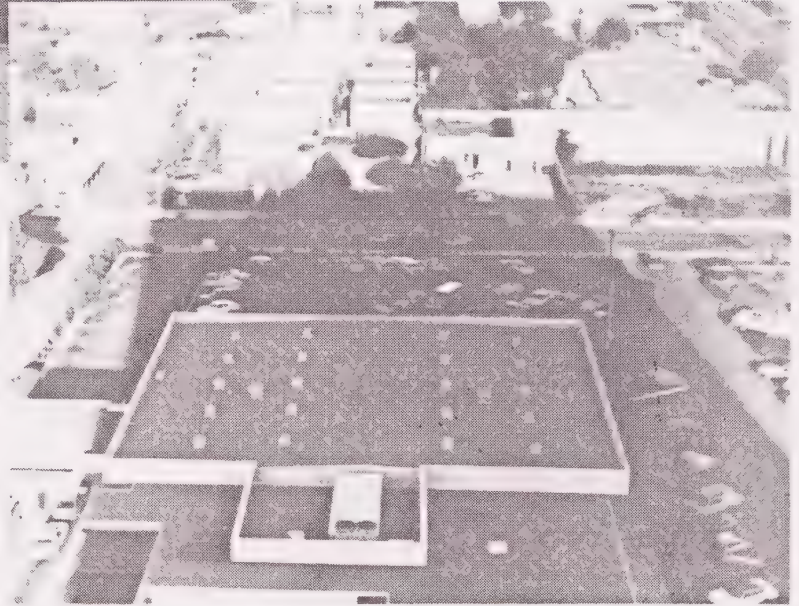
Residential lot combination incentives in the past were limited to density increases. This approach, of course, does not work in situations where the property is already zoned for the maximum allowable density. Other techniques must be found to encourage combination of such parcels.

The effect of a density incentive could be created by "rolling back" the zoning on single parcels to R1 and allowing subsequent rezoning to R2 upon combination of lots. Although this approach is certain to be unpopular with property owners, it is similar to the action taken in the Wallace Neighborhood Area (R-77-06), where R3 and R4 parcels were rezoned to R2 with provision for density increases upon combination. Some land assembly may be encouraged by this method, but because of the amount of recent construction on the eastside, some parcels will have no opportunity for combination with adjacent lots. The result would be restriction of a number of large, narrow parcels to single-family development.



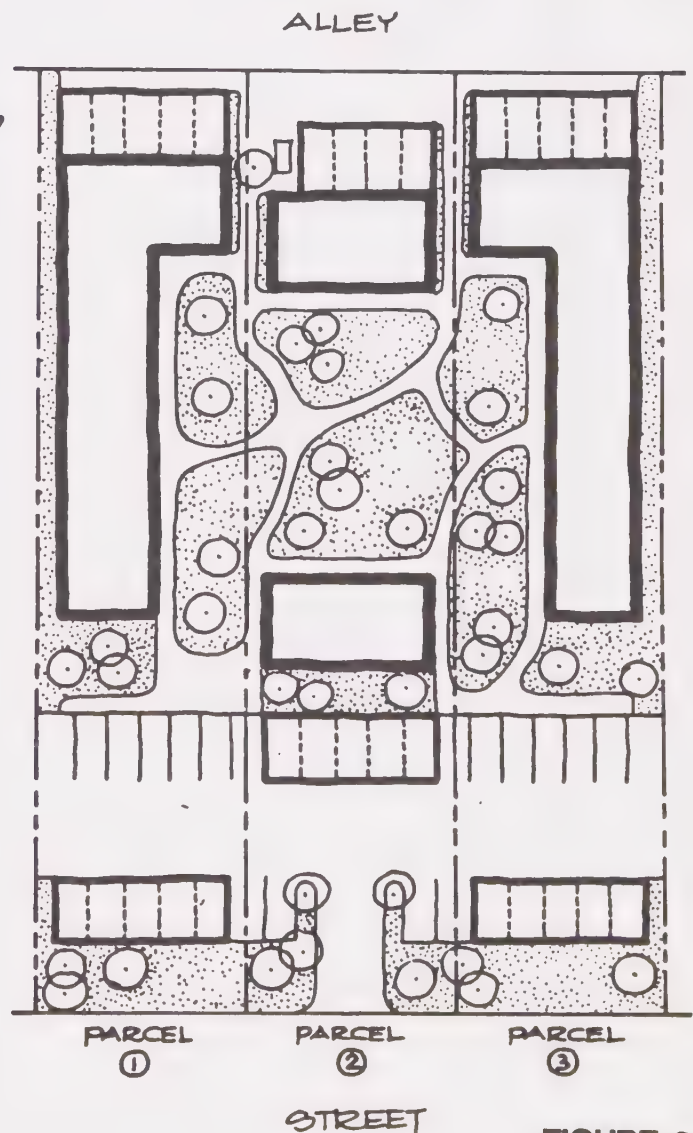
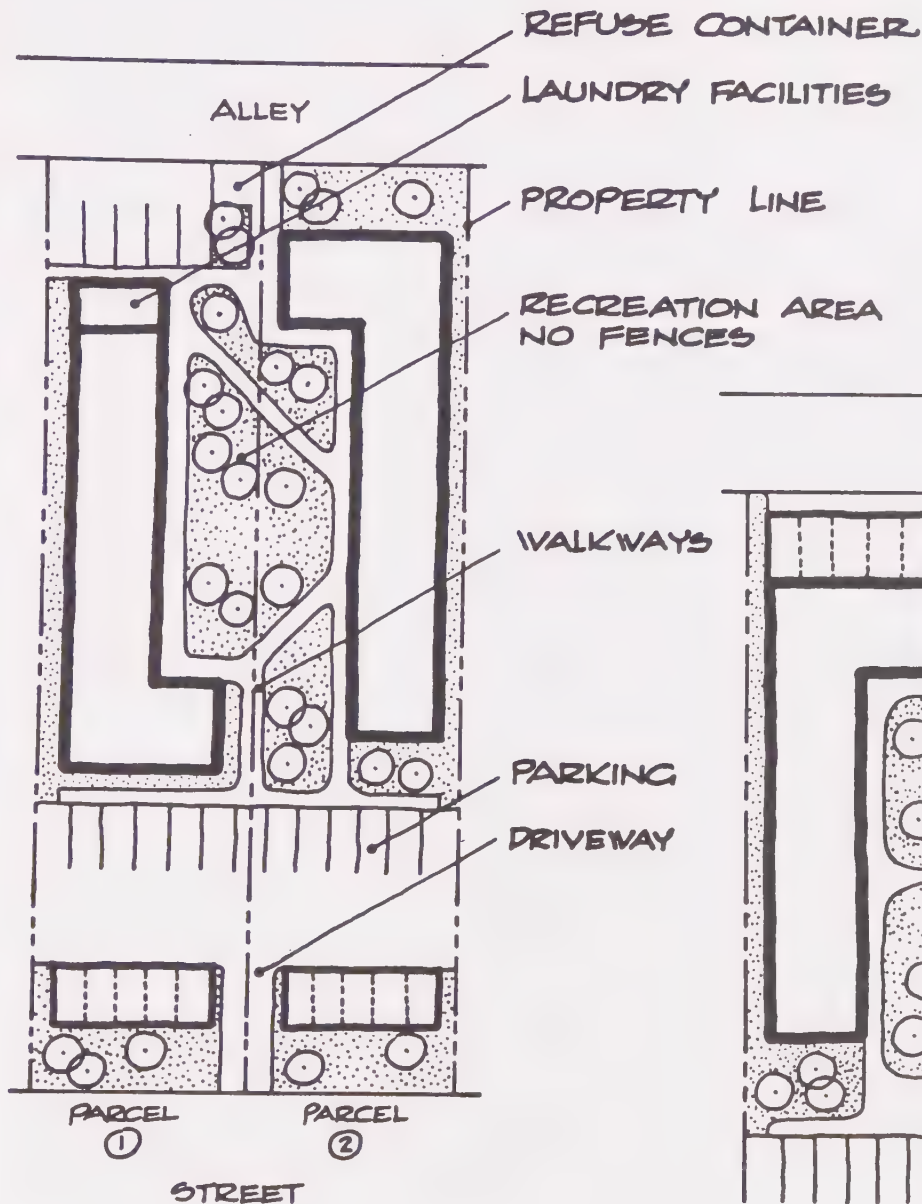
Nonconforming uses can pose a threat to the integrity of the surrounding neighborhood, particularly if the use is substantially incompatible.

Besides being out of scale in many neighborhoods, tall buildings can interfere with the solar access of properties which they overshadow.



Combining long narrow parcels enables a development which devotes a lesser portion of the total site to paved access.

UNIFIED DEVELOPMENT CONCEPT MAINTAINING SEPARATE OWNERSHIPS



SEVERAL OF THE FACILITIES ILLUSTRATED AND OTHERS CAN BE SHARED, THUS FACILITATING A "UNIFIED DEVELOPMENT." THE CONCEPT IS FURTHER ENHANCED BY CONSISTENT ARCHITECTURE AND LANDSCAPING.

FIGURE 64



Many of the constraints relating to narrow, deep lots also apply to small parcels. Small lots present challenges to site planners in attempting to achieve maximum building area while complying with all applicable setback, landscaping, and parking requirements. The same inefficiencies and hazards of multiple driveways also result. Of particular concern in relation to small residential parcels is the issue of constructing an additional unit while retaining an existing unit. The location of the existing unit severely constrains design and placement of the additional unit.

Current development standards establish 6,000 square feet as the minimum area for residential lots except where small lot subdivisions are allowed. Division of existing parcels according to this standard increases the number of subdivision-related development problems. To prevent continuation of this trend, minimum parcel area requirements for newly created multi-family lots could be raised. The Downtown Redevelopment Plan contains an area requirement of 18,000 square feet for new residential parcels. Smaller lots existing prior to adoption of the restriction were declared to be legal, buildable lots.

Most of the concerns expressed above deal with multiple-family residential lots. Some of the older, narrow, deep lots, however, are designated for single-family use. The appropriate method of developing such lots has long been in question. The size, shape, and location of these parcels is such that construction of a single unit is economically infeasible as well as an inefficient use of land.

Density in the R1 zone has traditionally been defined as one unit per parcel, with a minimum lot area of 6,000 square feet. The land use ordinance does not contain a requirement that R1 parcels have direct frontage on a public street. Deep lots could, therefore, be divided to create smaller parcels directly behind one another, provided easements were recorded to insure access to the street.

This approach could raise questions regarding the application of setbacks and other development standards. These issues could be addressed through a conditional use permit process or through adoption of regulations unique to these developments. Another alternative is creation of a new zoning designation for low-density development on large parcels. Such a zone could allow creation of separate, smaller lots, or development of more than one unit on a larger lot.

Combination of a sufficient number of lots would allow construction of a cul-de-sac from which newly created single-family parcels can take access. A large percentage of the site, however, would be consumed by the street, leaving a relatively small developable area. Alternatives include use of a private street of substandard width, or use of the Planned Development Residential - Low Density zone.

If all parcels were required to have frontage on the public street, the 18,000 square foot lots on the eastside would accommodate a maximum of one single-family home. The equivalent density would be 2.4 units per acre. The PDR-LD zone permits densities up to 8 units per acre. Combination of large lots in low density residen-

tial areas is encouraged through policies which would restrict zoning on single lots to R1 while allowing PDR-LD zoning for combinations of two or more parcels. Thus, two separate lots would support a maximum of two units, while up to six units could be built if the lots were combined. The PDR-LD development takes the form of a small-lot subdivision with a public or private street, or a cluster development of attached or detached homes.

Commercial Although most of the difficulties experienced with small parcels and narrow, deep lots are related to residential development, a number of older commercial properties are subject to the same constraints. Many of the commercial lots have been combined to create larger building sites; others were developed in the City's early years or prior to incorporation, and have substandard parking facilities; others, along the east side of Newport Boulevard, retain the original residential structures - some of which have been converted to commercial use.

Incentives to encourage assembly of commercial parcels have not been offered. Commercial intensity incentives could be offered in the form of increased building height or lot coverage. As building height limits are established primarily to protect adjacent properties, increased height on a larger parcel, where the structure can be further removed from the property line, would achieve the same purpose. Figure 65 illustrates this principle. Present development standards require commercial buildings to be set back from adjacent residential properties by a distance equal to twice the height of the commercial structure. The statutory height limit, however, is two stories, except that additional height may be granted by conditional use permit. This mechanism may be used to implement commercial lot combination incentives.

Increased lot coverage allowance is another potential incentive. As Figure 66 illustrates, greater coverage is automatically achieved simply by elimination of the required side yard setback for each property line removed. Additional efficiencies are realized as the number of driveways is reduced. Elimination of driveways through lot combination reduces the number of potential traffic conflict points, as well as improving on-site circulation.

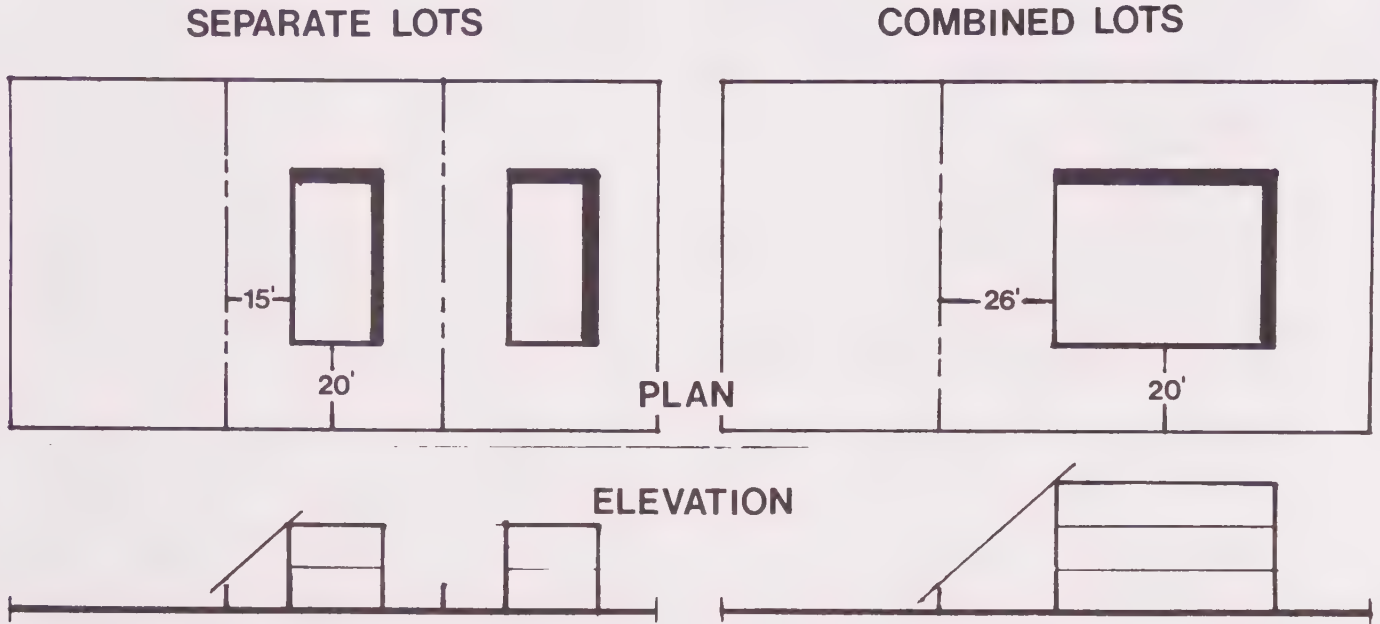
While efforts are being made to encourage combination of lots, larger parcels are being divided for development or sale. Whether developed for a single use or a number of separate activities, large parcels provide the opportunity for integrated development including common access and circulation, and compatible architectural and landscape themes.

MIXED USES

The issue of mixed land uses has long been a point of division among those dealing with urban planning and problems. On the one hand, it is argued that unlike uses should be separated and insulated from the adverse effects - traffic, noise, pollution, crime, etc. - of incompatible activities. This philosophy generally holds that residential use is not compatible with commercial or industrial activities. Most commercial uses are considered to be incompatible with industrial areas.

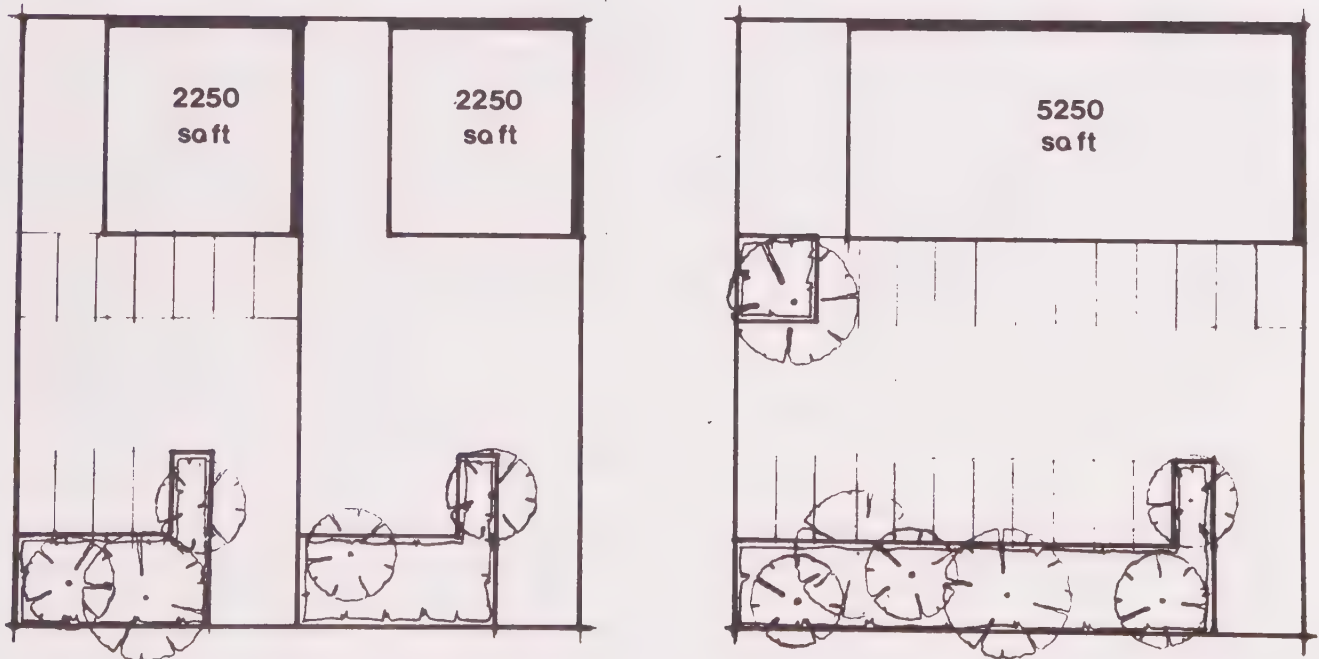
COMMERCIAL LOT COMBINATION HEIGHT INCENTIVE

FIGURE 65



COVERAGE INCENTIVE

FIGURE 66



On the other hand, some contend that the life, interest, and diversity of cities are heightened by the mixture of land uses. Intermingling of different uses can create an environment conducive to interaction and opportunities which might not otherwise exist.

In order to allow some diversity, while retaining protection for lower-intensity uses, some cities have adopted a cumulative zoning approach. Cumulative zoning is a system whereby each successive zoning classification includes the uses permitted under all less intense zones. For example, residential zones would permit only residential uses; commercial zones would permit residential and commercial uses; and industrial zones would allow residential, commercial and industrial uses. Exclusive zoning does not allow uses permitted in one zone to be conducted in another zone. Exclusive residential zones allow only residential uses; commercial zones - only commercial uses; and industrial zones - only industrial uses.

In its early years, Costa Mesa followed a cumulative zoning approach. In 1961, the City adopted a system of exclusive zoning for residential, commercial, and industrial zones; but allowing cumulative densities or uses within each of these basic land use categories. The first exception came in 1964 with an ordinance which authorized the designation of areas of the City as "transitional areas". In cases where gradual changes in land use are foreseen, the ordinance allows the designation of additional specified permitted uses in order to ease the transition. This was applied in 1965 to an area on the north side of 19th Street, west of Federal Avenue. A list of permitted commercial uses was adopted, allowing both the commercial and residential uses to operate in the affected 31 R1 homes. This subject is discussed in more detail in a later section.

In 1974, the Central Area Plan was adopted as a General Plan Element pertaining to the area encompassed by the Downtown Redevelopment Plan. The Central Area Plan provided for the possible vertical integration of residential and commercial uses in some areas. The 1977 amendments to the Downtown Redevelopment Plan suggested similar consideration for the Pacific Savings site. To date, no mixed-use developments have been established in the redevelopment area.

The Planned Development ordinance, adopted in 1974, provides for inclusion of complementary uses. Planned Development Residential (PDR) zones allow inclusion of commercial activities as complementary uses; PDC (commercial) zones allow residential and industrial uses; and PDI (industrial) zones permit both commercial and residential uses if determined to be compatible with other uses allowed. Commercial uses that have been permitted in PDI zones have generally been justified on the basis that they serve the industries in the area and their employees. The Lakes development adjacent to the Town Center, combines 770 dwelling units, two hotels, and a 22,000 square foot retail commercial center and a large common open space area.

The South Coast Town Center includes a variety of commercial uses with differing characteristics. Offices, restaurants, and theatres complement each other in a number of ways: restaurants serve both

office employees and theatre patrons; their proximity reduces the need for vehicle trips; and office and theatre use generally occur during different parts of the day - allowing use of the same parking facilities.

Several different design approaches can be taken to implement the mixed-use concept. Some of the benefits can be achieved simply by locating different uses adjacent to each other. This may be on adjacent properties (not a true "integrated development"), such as the high density apartments adjoining Harbor Center; or on the same site, such as The Lakes development which contains residential, office, and retail areas. The latter may be accomplished by zoning portions of the property differently, or by including complementary uses under a Planned Development zone.

The most extreme method of mixing uses is to include both in the same structure. This has been done in the 19th Street transitional area. However, due to a lack of design guidelines and zoning regulations adopted for the area, the transition zone has been a source of many problems. The benefits of mixed use development would be more readily seen in structures designed to accommodate more than one use (i.e., a vertical mixture).

Several older buildings remain on Newport Boulevard and in the Downtown area with commercial uses on the ground floor and residences above. Some of the nation's larger cities contain high-rise structures with lower floors devoted to commercial and office use and upper floors containing residential units. Such designs may be viable in the developing portions of north Costa Mesa.

BUILDING HEIGHT

Building height restrictions are established for the purposes of regulating the intensity of development and limiting impacts on neighboring properties. Height limitation has long been recognized to be a legitimate use of cities' police powers as one of many zoning techniques employed to insure adequate light, air, and privacy. Height limits are also established to reduce fire risks - often because local fire protection agencies do not have the necessary equipment and other resources to fight high-rise fires.

Until 1972, the maximum building height in Costa Mesa was two stories. The only exception was the I&R zone which did not contain a height limit, although Planning Commission approval of a master plan of development was required. In 1972, '73, and '74, the Town Center, Industrial, and Planned Development zoning ordinances were adopted without height limits. However, the City retains discretion in the Town Center and Planned Development zones, where conditional use permits are required for project approval. Revised commercial development standards, adopted in 1978, include buildings in excess of two stories or 30 feet as conditional uses. A 1977 amendment redefined the residential height limit as two stories, not to exceed 30 feet.

Height restrictions can be phrased in terms of the number of stories, the measured height in feet, or both. The choice of standard should be determined by the purpose sought. A limitation to the number of stories is best suited to the purpose of regu-

lating the intensity of development, while a height limitation in feet is best suited to regulating impacts on neighboring properties.

One of the most significant impacts of large-scale development in Costa Mesa is additional traffic generation. In residential zones this can be effectively regulated by density restrictions. Building height maximums are one of the most useful tools for regulating the volume of employees, customers, and vehicle trips generated by commercial office projects. Developments such as the South Coast Town Center generate significantly higher volumes of traffic than similar uses elsewhere in the City with two-story building heights.

For the same reason high-rise development contributes to traffic volume and congestion, it holds the potential for improving traffic conditions. High traffic generation results from the concentration of large numbers of people in a small geographic area. This condition is one of the prime prerequisites for developing an efficient public transportation system. Transportation Systems Management (TSM) measures such as ride-sharing and staggered work hours have greater potential in high-intensity, high-rise developments. These transportation issues are discussed further in the Transportation Subelement of the Community Development/Management Element.

Construction of additional floor area, as a result of increased building height, requires provision of additional parking and increases the difficulty of complying with other development standards. The amount of parking required by high-rise structures often dictates use of subterranean garages or multi-story parking structures. Current development standards for commercial and industrial zones require setbacks from adjacent residential properties equal to twice the height of the commercial structure. In many cases, compliance with this standard would be difficult, or impossible, with a building exceeding two stories.

Safety considerations and regulations of other agencies are also involved in the issue of building heights. The proximity of John Wayne Airport adds air safety to the building height constraints in Costa Mesa. Regulations promulgated by the Federal Aviation Administration and adopted by the Orange County Airport Land Use Commission require airspace that is to be kept free of obstruction to allow safe navigation of aircraft in the vicinity of airports. The City of Costa Mesa has taken the approach that it is not responsible for enforcing the regulations of another agency (FAA) by strict application of its standards. Rather, projects will be individually evaluated based on actual potential for obstruction, as determined by the FAA or an independent consultant. Further discussion of this subject is contained in the Airport Considerations subsection of this element.

Fire safety is a factor often considered in the establishment of building height limitations. As building heights increase, fire departments experience greater difficulty in obtaining ladder access, ascending stairwells, and evacuating building inhabitants. The extent of these problems has been significantly reduced by the adoption of State and local design standards. State requirements,

contained in Title 24 of the California Administrative Code, specify fire detection and protection systems for all new buildings with usable floor areas in excess of 75 feet above the lowest level of building access. Perhaps the most significant aid in restricting the spread of fire is the use of automatic fire sprinklers. The Costa Mesa Municipal Code extends the requirement for sprinklers to buildings with usable floors above 55 feet. Because of the design features required to be incorporated into high-rise buildings, fire protection is no longer the constraining criteria it used to be in determining acceptable building height limitations.

Seismic safety is another factor to be considered in building design, due to the potential for earthquake damage in Southern California. Stringent standards were adopted by the State in 1933 to increase the ability of structures to withstand seismic activity. A discussion of potential earthquake damage to various types of structures in Costa Mesa, including high-rise buildings, is included in the Geology Subelement of the Environmental Resources/Management Element.

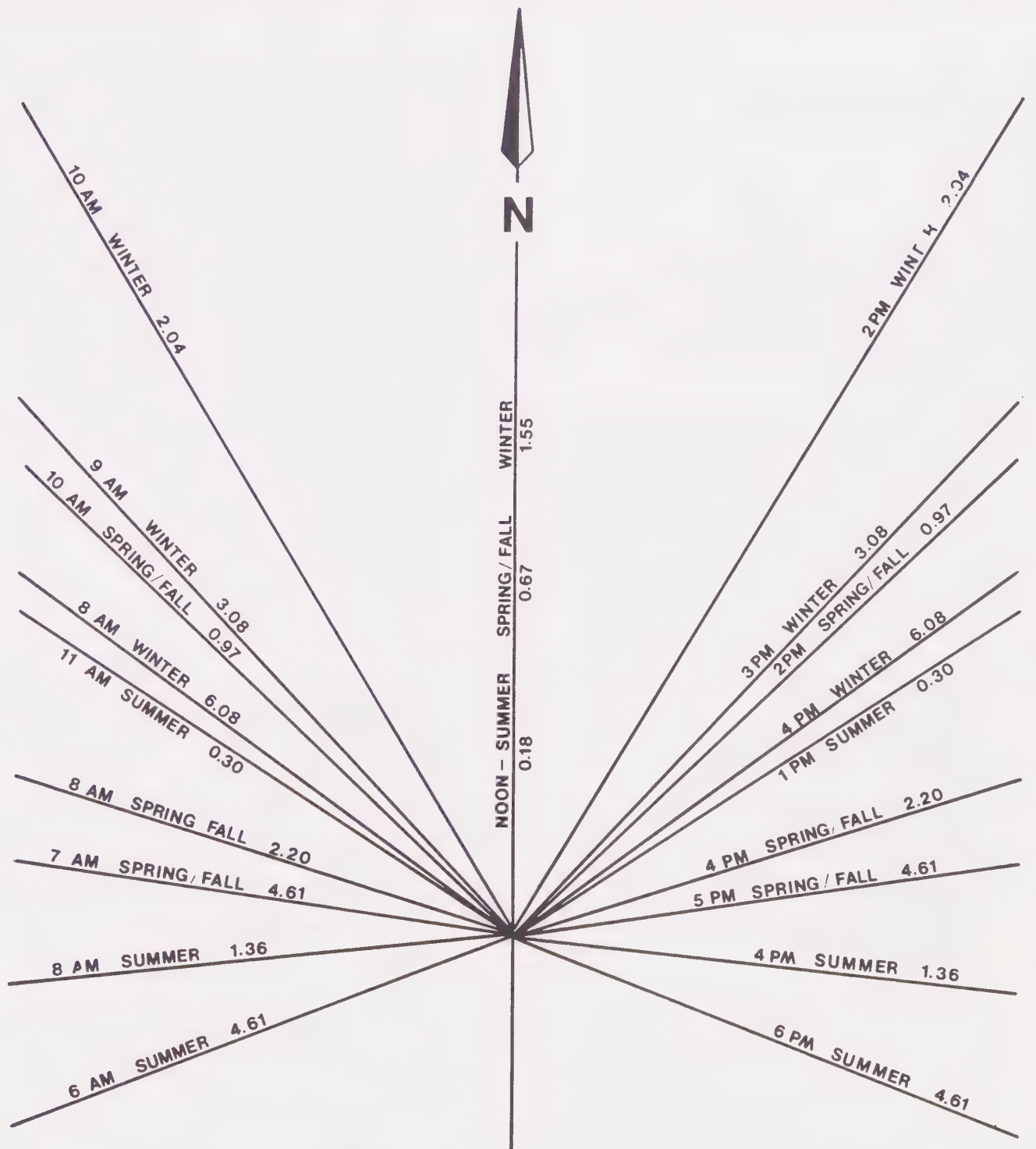
The relationship of a building to its surroundings is an important consideration in evaluating appropriate height. The scale of a building - its relative size as compared to neighboring structures - is a major determinant of its compatibility. An isolated high-rise, such as Bethel Towers on West 19th Street, appears out of scale with the surrounding community, while a grouping of buildings of various heights, such as the Town Center, creates a visual image of compatibility.

One of the more controversial impacts of high-rise development in proximity to residential areas is the effect of shadow. Concern over this issue has increased in recent years as a result of the growing popularity of solar energy systems. Figure 67 illustrates the length and direction of shadows produced at various times of the day during various seasons. The figure assumes a building height of 1 foot; shadow length of an actual building can be determined by multiplying the height of the building by the factor obtained from the chart.

Opposition to high-rise buildings from neighboring residents often includes claims of privacy invasion and view obstruction. In some cases concern has been expressed over interference with television reception.

TRANSITION ZONE

In 1965, the City approved an overlay "transitional area" for a group of 31 single-family homes on the north side of 19th Street, west of Federal Avenue. The intent of this transition zone was to allow home occupations within the single-family residential district. The transition zone has remained in effect over twenty years, even though the original action was intended to be temporary. Because the area appeared to be changing from residential to commercial, it was thought that the transitional designation would help with the changing land use.



	SUNRISE	SUNSET
WINTER	7 AM	5 PM
SPRING/FALL	6 AM	6 PM
SUMMER	5 AM	7 PM

WINTER	DEC. 22
SPRING	MARCH 21
SUMMER	JUNE 22
FALL	SEPT. 23

BUILDING SHADOW GUIDE

FIGURE 67



The transition zone has never completed the evolution from a residential to commercial district. Mixed use exists in the zone with single-family residential, side by side with home businesses and businesses (currently not legal).

Uncertainty regarding future use of the area has existed for some time. Zoning regulations pertaining to allowable uses are uncertain. As a result, residents in the area are aggravated about the lack of clear planning, sales and financing have been made difficult, and some owners have allowed their properties to decline. The area has become a source of numerous complaints and code violations, and the deteriorating properties affect adjacent R1 neighborhoods.

In response to concern expressed about the transition zone, the City commissioned an economic analysis of the area. The report studies the economic feasibility of three different zoning classifications including:

- 1) R1 zone with existing transition zone overlay
- 2) Commercial limited
- 3) Medium density residential

The report concluded that multi-family housing represents the highest and best use of the property. Retail and office uses would have minimal demand. However, area residents have generally opposed multi-family housing in their neighborhood and responded negatively to the report.

In the Spring of 1986, at the request of the City, a group of volunteer architects and planners organized a RUDAT (Regional Urban Design Assistance Team). The team spent two days in an intensive workshop to analyze issues and propose solutions to the transition area problems. As a result of the RUDAT, a draft report has been completed. Three possible solutions, from near-range to far-range, were developed:

- 1) Scheme 1 (near-range): Proposes maximum development of existing commercial/residential mixed use while maintaining a low density look and feel. Strict guidelines would be required to preserve the residential character.
- 2) Scheme 2 (mid-range): Proposes clustered commercial development at street intersections with either the existing mixed residential/business or medium density multi-family housing at interior lots.
- 3) Scheme 3 (far-range): Proposes ultimate development in conjunction with maximum future growth. A mixed-use commercial/retail/residential complex is proposed.

The RUDAT report points out that the schemes are not mutually exclusive. For example, Scheme 1 could evolve, if desired, into Scheme 3.

Without a clear vision of what the area should be, the past problems are likely to continue. Therefore, the RUDAT Scheme 1 has been selected with design guidelines to be established through a Specific Plan.

LAND USE/CIRCULATION CORRELATION

The description of the individual Land Use classifications in the following section establishes allowable building intensities for each classification. The intensities have been established to ensure that the development allowed by the Land Use Element does not overburden the City's planned circulation system. This correlation is required by State law in Section 65302(b) of the Government Code.

The allowable building intensity in each land use category is determined by two primary factors: the peak hour trip rates utilized in the City's General Plan Traffic Model, and units-per-acre standard in residential classifications or the floor area ratios in the commercial and industrial land use classifications. These factors are combined to establish a "trip budget" for each site. Provided below is a general discussion of how the trip budget is calculated in the residential, commercial, and industrial land use classifications.

Residential

The trip budget for each parcel or development shall be calculated on both an AM and a PM peak hour basis by multiplying the land area by the maximum units-per-acre standard and by the AM and PM peak hour trip generation rates for the applicable land use classification shown in Table 60. The lowest or more restrictive of these calculations shall apply. Nonresidential uses permitted by the General Plan in residential land use classifications are also subject to the trip budget, and the nonresidential uses may not generate any additional AM or PM peak hour vehicle trips than what would occur if the site were developed as a residential use.

Project Lot Area X Units-Per-Acre X AM Peak Trip Rate = AM Peak Trip Budget.

Project Lot Area X Units-Per-Acre X PM Peak Trip Rate = PM Peak Trip Budget.

TABLE 60

RESIDENTIAL TRAFFIC GENERATION STANDARDS

<u>Land Use Classification</u>	<u>Maximum Dwelling Units/Acre</u>	<u>AM Peak Trip Rate</u>	<u>PM Peak Trip Rate</u>
Low Density Residential	8	.75	1.0
Medium Density Residential	12	.80	1.0
High Density Residential*	20	.53	.67

* See land use text regarding an area where 25-35 du/acre is allowed.

The transition zone has never completed the evolution from a residential to commercial district. Mixed use exists in the zone with single-family residential, side by side with home businesses and businesses (currently not legal).

Uncertainty regarding future use of the area has existed for some time. Zoning regulations pertaining to allowable uses are uncertain. As a result, residents in the area are aggravated about the lack of clear planning, sales and financing have been made difficult, and some owners have allowed their properties to decline. The area has become a source of numerous complaints and code violations, and the deteriorating properties affect adjacent R1 neighborhoods.

In response to concern expressed about the transition zone, the City commissioned an economic analysis of the area. The report studies the economic feasibility of three different zoning classifications including:

- 1) R1 zone with existing transition zone overlay
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The report concluded that multi-family housing represents the highest and best use of the property. Retail and office uses would have minimal demand. However, area residents have generally opposed multi-family housing in their neighborhood and responded negatively to the report.

In the Spring of 1986, at the request of the City, a group of volunteer architects and planners organized a RUDAT (Regional Urban Design Assistance Team). The team spent two days in an intensive workshop to analyze issues and propose solutions to the transition area problems. As a result of the RUDAT, a draft report has been completed. Three possible solutions, from near-range to far-range, were developed:

- 1) Scheme 1 (near-range): Proposes maximum development of existing commercial/residential mixed use while maintaining a low density look and feel. Strict guidelines would be required to preserve the residential character.
- 2) Scheme 2 (mid-range): Proposes clustered commercial development at street intersections with either the existing mixed residential/business or medium density multi-family housing at interior lots.
- 3) Scheme 3 (far-range): Proposes ultimate development in conjunction with maximum future growth. A mixed-use commercial/retail/residential complex is proposed.

The RUDAT report points out that the schemes are not mutually exclusive. For example, Scheme 1 could evolve, if desired, into Scheme 3.

Without a clear vision of what the area should be, the past problems are likely to continue. Therefore, the RUDAT Scheme 1 has been selected with design guidelines to be established through a Specific Plan.

LAND USE/CIRCULATION CORRELATION

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Residential

The trip budget for each parcel or development shall be calculated on both an AM and a PM peak hour basis by multiplying the land area by the maximum units-per-acre standard and by the AM and PM peak hour trip generation rates for the applicable land use classification shown in Table 60. The lowest or more restrictive of these calculations shall apply. Nonresidential uses permitted by the General Plan in residential land use classifications are also subject to the trip budget, and the nonresidential uses may not generate any additional AM or PM peak hour vehicle trips than what would occur if the site were developed as a residential use.

Project Lot Area X Units-Per-Acre X AM Peak Trip Rate = AM Peak Trip Budget.

Project Lot Area X Units-Per-Acre X PM Peak Trip Rate = PM Peak Trip Budget.

TABLE 60

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Medium Density Residential	12	.80	1.0
High Density Residential*	20	.53	.67

* See land use text regarding an area where 25-35 du/acre is allowed.

TABLE 61: COMMERCIAL USE MIX AND TRAFFIC GENERATION STANDARDS

<u>Land Use Classification</u>	<u>Allowable Floor Area Ratio</u>	<u>AM Peak Trip Rate</u>	<u>PM Peak Trip Rate</u>
Neighborhood Commercial	0.25 FAR ¹ Retail 0.35 FAR Office	1.77 TE/TSF ²	4.18 TE/TSF
General Commercial	0.30 FAR Retail 0.40 FAR Office	2.34 TE/TSF	3.75 TE/TSF
Commercial Center	0.35 FAR Retail 0.45 FAR Office	1.46 TE/TSF	3.44 TE/TSF
Regional Commercial	0.652/0.890 FAR ³	0.92 TE/TSF	3.34 TE/TSF
Urban Center Commercial	0.50 FAR Retail 0.60 FAR Office	1.60 TE/TSF	1.91 TE/TSF

1. Floor Area Ratio.

2. Trip ends per 1,000 square feet.

3. See Regional Commercial text.

Commercial

The allowable building intensities and the trip rates shown in Table 61 combine to establish parameters for the ultimate buildout of individual commercial parcels within the City. In a sense, the floor area ratios and narrative building height discussions for each commercial designation establish an allowable building envelope while the trip-generation rates establish the trip budget for each site.

To account for the variation in traffic generation among different commercial uses, the allowable floor area ratios and the trip rates of each use are used in combination to establish the maximum permitted building intensity standard for each parcel or development in the community. Since the trip generation is the key to maintaining circulation system correlation, the per-site trip budget becomes the primary element in determining the extent of development permitted on a given lot. Using this approach, higher traffic generating land uses (i.e., restaurants) will be limited to a lower building intensity than other lower traffic generating uses. The following methodology shall be used to implement this concept:

The trip budget for each parcel or development shall be calculated on both an AM and a PM peak hour basis by multiplying the land area by the allowable floor area ratio and by the AM and PM peak hour trip generation rates for the applicable land use classification.

The lowest or more restrictive of these two calculations shall apply.

Project Lot Area X Floor Area Ratio X AM Peak Trip Rate = AM Peak Trip Budget.

Project Lot Area X Floor Area Ratio X PM Peak Trip Rate = PM Peak Trip Budget.

The allowable floor area ratios and trip budget rates shall be applied on a project-planning rather than parcel-specific basis. This approach will allow consideration of multi-phased or multi-lot projects as a whole development rather than individual pieces of the whole. An example would be a commercial condominium subdivided as a planned unit development where each building is located on a separate lot which conforms to its building footprint and where the parking and landscaped areas are located on common lots. In this example, the individual building lots would have a floor area ratio of at least 1.00 FAR, but the overall project (individual building lots and all common lots) would meet the allowable floor area ratio building intensity standard for the given land use classification. However, the rates could be applied at a parcel-specific level if the project is or can be developed on a single lot and not subdivided at a later date.

Subdivisions of existing developments or projects shall not cause the development to become nonconforming or, if already nonconforming, shall not make the development more nonconforming with respect to the density and intensity standards for the land use designation in which the project is located unless binding agreements restricting development of the newly created parcel(s) are recorded as a part of the subdivision.

Industrial

The trip budget for each parcel or development shall be calculated on both an AM and a PM peak hour basis by multiplying the land area by the allowable floor area ratio standard and by the AM and PM peak hour trip generation rates for the applicable land use classification shown in Table 62. The lowest or more restrictive of these calculations shall apply. Nonindustrial uses permitted by the General Plan in industrial land use classifications are also subject to the trip budget, and the nonindustrial uses may not generate any additional AM or PM peak hour vehicle trips than what would occur if the site were developed as an industrial use.

Project Lot Area X Floor Area Ratio X AM Peak Trip Rate = AM Peak Trip Budget.

Project Lot Area X Floor Area Ratio X PM Peak Trip Rate = PM Peak Trip Budget.

TABLE 62

INDUSTRIAL TRAFFIC GENERATION STANDARDS

<u>Land Use Classification</u>	<u>Allowable Floor Area Ratio</u>	<u>AM Trip Rate</u>	<u>PM Peak Trip Rate</u>
Industrial Park	0.40 FAR	0.93 TE/TSF	0.97 TE/TSF
Light Industry	0.35 FAR	0.96 TE/TSF	1.03 TE/TSF

The allowable floor area ratios and trip budget rates shall be applied on a project-planning rather than parcel-specific basis. This approach will allow consideration of multi-phased or multi-lot projects as a whole development rather than individual pieces of the whole. An example would be an industrial condominium subdivided as a planned unit development where each building is located on a separate lot which conforms to its building footprint and where the parking and landscaped areas are located on common lots. In this example, the individual building lots would have a floor area ratio of at least 1.00 FAR, but the overall project (individual building lots and all common lots) would meet the allowable floor area ratio building intensity standard for the given land use classification. However, the rates could be applied at a parcel-specific level if the project is or can be developed on a single lot and not subdivided at a later date.

Subdivisions of existing developments or projects shall not cause the development to become nonconforming or, if already nonconforming, shall not make the development more nonconforming with respect to the density and intensity standards for the land use designation in which the project is located unless binding agreements restricting development of the newly created parcel(s) are recorded as a part of the subdivision.

Trip Budget Transfers

The trip budgets established at the Traffic Analysis Zone (TAZ) level in the Costa Mesa Traffic Model can also be combined or transferred between TAZs in a specified area of the City and under certain conditions to account for large master planned developments which contain multiple TAZs. Likewise, trips can be combined or transferred between individual parcels within single TAZs. Combinations and/or transfers shall only be allowed for projects which meet the following conditions:

1. The combination and/or transfer of trips shall only be allowed in the area of the City that is north of the I-405 and east of Harbor Boulevard, and shall be limited to parcels within a one mile radius of each other.
2. Trip budget transfers shall be evaluated in the review and approval of a planned development or master plan projects. Sufficient conditions of approval shall be applied to the master plan or development plan to ensure long-range control over subsequent phases of development.
3. The combination and/or transfer of trips shall not result in any greater impacts on the surrounding circulation system than would occur if each Traffic Analysis Zone was developed independently.
4. For the combination and/or transfer of trips between TAZs, such combination and/or transfer of trips shall not exceed the total trip budget of all parcels involved if each were developed independently according to the floor area ratio and trip generation rates provided herein.
5. The combination and/or transfer of trips shall not allow development intensities which result in abrupt changes in scale or intensity within the project or between the project and surrounding land uses.
6. Approval of the master plan or development plan shall be conditioned to ensure compliance with the above criteria and to preclude future overdevelopment on portions of the project or properties from which trips were transferred.
7. Trip budget transfers shall be recorded against the properties.

Definitions

The following definitions and interpretations shall be used to implement this portion of the General Plan Land Use Element:

Effective Trip Generation shall mean the AM and PM peak hour traffic volumes generated onto the public streets by a specific project proposal.

Floor Area Ratio shall mean the gross floor area of a building or project divided by the project lot area upon which it is located.

Gross Floor Area shall mean the total building area of all floors within the walls of all structures except elevator and other vertical shafts (including stairwells) and elevator equipment areas. Parking structures shall not be considered building area for the purposes of calculating allowable floor area ratios.

Peak Hour shall mean the hour during the AM peak period (typically 7:00 a.m. - 9:00 a.m.) or the PM peak period (typically 3:00 p.m. - 6:00 p.m.) in which the greatest number of vehicle trips are generated by a given land use or are travelling on a given roadway.

Project Lot Area shall mean the total area of a project after all required dedications or reservations for public improvements, including but not limited to streets, parks, schools, flood control channels, etc.

Project shall mean a development proposal submitted under a single ownership or control at the time of the initial plan submittal and approval. A project may be subdivided or developed in phases by subsequent multiple owners. However, the initial building intensity established by the initial project approval shall be maintained throughout the development of the entire project.

Trip shall mean a one-way vehicular journey either to or from a site, or it may be a journey totally within the site. The latter is usually referenced to as an internal trip. Each trip will have two trip ends, one at the beginning and the other at the destination.

Trip Budget shall mean the maximum number of AM and PM peak hour trips allocated to a project site. The trip budget shall be derived by multiplying the project area by the allowable floor area ratio and by the AM and PM peak hour trip generation rates for the applicable land use classification.

Trip Rate shall mean the anticipated number of trips to be generated by a specific land use type or land use classification. The trip rate shall be expressed as a given number of trips for a given unit of development intensity (i.e., trip per unit, trip per 1,000 sq.ft., etc.). Trip rates used in the calculation of trip budgets under the provisions of this section of the Land Use Element shall be those rates established by City Council resolution.

LAND USE CLASSIFICATIONS

The General Plan contains thirteen land use designations dividing the City's net area into four basic types of uses. The General Plan designates three residential densities, five types of commercial areas, two industrial districts, and three public or semi-public type uses. The Land Use classifications are discussed in this section.

Residential

Costa Mesa's 3,965 residential acres are divided into the Low, Medium, and High Density Residential designations.

Low Density Residential:

Low Density Residential areas are intended to accommodate single-family residences on their own parcels, attached housing which provides a greater portion of recreation or open space than typically found in multi-family developments, and clustered housing which affords the retention of significant open space. Low Density Residential areas should be located away from or protected from the more intense nonresidential areas and major travel corridors. The density in such areas is up to eight units to the acre.

Using average household size data from the 1990 Census, the projected population density within this designation would be up to 20 persons per acre.

Existing stable single-family neighborhoods should be preserved. The establishment of attached or clustered housing through the Planned Development concept can be allowed in appropriate Low Density Residential areas as a means to encourage the combination of parcels or to make more efficient use of larger parcels.

The residential areas in Costa Mesa designated as Low Density are almost entirely developed. This development includes several large single-family tracts developed from the mid-1950's through the 1970's. Also included are neighborhoods which contain a mixture of single-family and nonconforming multi-family development. The residential area east of Newport Boulevard contains a significant amount of development which exceeds the density maximum in its Low Density Residential areas. This development is the result of past zoning policies practiced by the City and County. Conversion of such properties to conforming development has been, and will continue to be, a slow process.

As the majority of land for Low Density Residential use has become fully developed, future large scale single-family tract development is precluded. It can be expected that larger single-family lots will be proposed for subdivision in the future. Planned Developments near the maximum density may also become more common, perhaps through combination of parcels and replacement of single-family development.

Nonresidential uses which complement and serve the surrounding residential neighborhood are also appropriate within this designation. These uses typically include schools, parks, churches, libraries and public facilities. Additional uses authorized by State law, such as group residential facilities, accessory apartments, granny flats, and family day care homes are also appropriate.

As shown in Table 60, the Costa Mesa Traffic Model for the General Plan uses the following peak hour rates for single-family detached housing: the AM peak hour rate is .75 per dwelling unit and the PM peak hour rate is 1.0 per dwelling unit. Commercial uses as approved in the official commercial uses list for the Transition Area (854 through 1014 West 19th Street - even numbers only, and 1903 Federal Avenue), or later approved through a Specific Plan for this area shall be allowed. A Specific Plan shall be prepared for the Transition Area to further address allowable uses, trip budget limits, and design guidelines. Allowable peak hour trips for the Transition Area shall be calculated based on the Neighborhood Commercial trip rates.

Compatible zones include R1 and PDR-LD.

Medium Density Residential:

The Medium Density Residential designation is intended for single- and multi-family developments with a density of up to 12 units to the acre. The 12 units to the acre standard can be exceeded for existing Medium Density Residential lots less than 7,260 sq.ft., but not less than 6,000 sq.ft. where density calculation fractions

equal to or greater than 1.65 may be rounded to two units. This allows conforming R2 lots less than 7,260 sq.ft. to have two units, but still would preclude rounding for other situations, including R2 lots less than 6,000 sq.ft. in area.

Density bonuses may be granted by the City when a project is designed to provide housing for households with specialized requirements. Such households include senior citizens, handicapped, low-income, and other households with needs not sufficiently accommodated by conventional housing. However, the project's resulting density may not exceed 12 units/acre except for density bonus which may be granted to affordable senior citizen projects.

Using average household size data from the 1990 Census, projected population density would range from up to 30 persons per acre.

The type of development which is found within this designation is generally more tolerant to impacts which would adversely affect low density development. Although still susceptible to the impacts caused by more intense uses and noise, a Medium Density Residential development has greater potential to provide mitigation through visual and acoustical shielding. Thus, areas for Medium Density Residential use can be established closer to potentially disparate uses than can Low Density Residential, providing the potential impacts are not of a severity which precludes mitigation.

Medium Density Residential land in the City is largely composed of already developed parcels, many originally subdivided for single-family use. Of these properties, a substantial number are zoned for single-family residences while those with multi-family zoning can typically accommodate a maximum of two units. Certain areas designated as Medium Density Residential are characterized by deep, narrow parcels with areas ranging from approximately 18,000 to 20,000 square feet. This is especially prevalent east of Newport Boulevard.

Because of the location and intensity of development, Medium Density Residential areas are also appropriate for quasi-residential uses such as senior citizen congregate care facilities, convalescent hospitals and group residential homes. Schools, churches, parks, libraries and related public facilities are equally appropriate.

Complementary commercial uses within this designation may be allowed in planned development projects provided that the commercial uses will not generate any additional AM or PM peak hour vehicle trips than what would occur if the entire project site were developed at its maximum residential potential as allowed by the General Plan. As shown in Table 60, the Costa Mesa Traffic Model for the General Plan uses the following peak hour rates for single-family attached housing: the AM peak hour rate is .80 per dwelling unit and the PM peak hour rate is 1.0 per dwelling unit. Floor Area Ratios and population densities for commercial projects shall be the same as the Neighborhood Commercial land use designation.

Compatible zones include R1, R2 and PDR-MD.

High Density Residential:

Areas designated as High Density Residential are intended for residential development with a density of up to 20 units to the acre. Density bonuses may be granted by the City when a project is designed to provide housing for individuals and families with specialized requirements. Such households include, but are not limited to, senior citizens, handicapped, and low income. However, the project's resulting density may not exceed 20 units per acre except for density bonus which may be granted to affordable senior citizen projects.

In addition, the 41-acre vacant parcel, referred to as Sakioka lot 1, has a higher density limit of 25 to 35 units to the acre. The upper limit of 35 units per acre shall include any density bonus.

Using average household size data from the 1990 Census, projected population densities would range up to 50 persons per acre except for the Sakioka lot 1, where the maximum population density is 88 persons per acre.

High Density areas should be located in proximity to transportation routes, especially those served by public transit. The establishment of such areas within convenient distance to shopping and employment centers is also encouraged. Although proximity to the above uses and transportation routes often results in a residential development being subject to adverse impacts, High Density Residential development can be less susceptible to such impacts than lower densities if visual and acoustical shielding techniques are incorporated into the project.

In addition to the above locational preferences, viable High Density development is also dependent upon site characteristics. A site should be of appropriate size and dimension before the higher densities within this designation are allowed.

Because of their location and intensity of development, High Density Residential areas are also appropriate for quasi-residential uses such as senior citizen congregate care facilities, convalescent hospitals, and group residential homes. Schools, churches, parks, libraries and related public facilities are also appropriate.

Complementary commercial uses within this designation may be allowed in planned development projects provided that the commercial uses will not generate any additional AM or PM peak hour vehicle trips than what would occur if the entire project site were developed at its maximum residential potential as allowed by the General Plan. As shown in Table 60, the Costa Mesa Traffic Model for the General Plan uses the following peak hour rates for high density residential uses: the AM peak hour rate is .53 and the PM peak hour rate is .67. Floor Area Ratios and population densities for commercial projects shall be the same as the Neighborhood Commercial land use designation.

Compatible zones include R2, R3, R4 and PDR-HD.

Commercial

Five designations are applied to the land in Costa Mesa allocated for commercial uses. These designations vary in location and

intensity in order to accommodate the full range of commercial activity present in Costa Mesa.

Neighborhood Commercial:

As the title implies, Neighborhood Commercial areas are intended to serve local convenience shopping and service needs. Appropriate uses include markets, drug stores, retail shops, financial institutions, service establishments and support office uses. Restaurants, hotels and motels, and residency hotels such as single room occupancy (SRO) hotels may be appropriate if properly located, designed and operated to avoid adverse impacts to surrounding uses. The establishment of such uses in various areas proximate to residential neighborhoods can reduce the need for longer vehicle trips to areas of more intense commercial activity in order to obtain goods or services which may be required on a frequent basis. In addition to the convenience afforded neighborhood residents, well placed Neighborhood Commercial areas can reduce vehicle use and thereby traffic congestion and energy consumption. Since Neighborhood Commercial uses are intended to serve nearby residential neighborhoods, the uses permitted should be among the least intense of the commercial spectrum. The establishment of a Neighborhood Commercial designation for commercial areas adjoining sensitive land uses can be one method of preventing the encroachment of potentially incompatible uses.

Development within this designation will accommodate a wide variety of retail uses, offices and service establishments housed in one-story commercial buildings. Two-story buildings should only be permitted where it can be shown that they will not adversely impact adjacent uses. The allowable floor area ratio (FAR) is 0.25 retail/0.35 office.

As shown in Table 61, the Costa Mesa General Plan Traffic Model uses the following peak hour rates in determining the trip budget for projects in this classification: the AM peak hour rate is 1.77 trip ends per 1,000 square feet, and the PM peak hour rate is 4.18 trip ends per 1,000 square feet.

Population densities in the Neighborhood Commercial designation are largely a factor of the employment-generating ratios of the uses permitted. A table identifying the ratios used to estimate employment projections throughout this plan follows. Typically, the building intensity range of this designation would generate a corresponding population density of 23 employees per acre for a standard mix of uses. A development that consisted of office use only would require up to 51 employees per acre. SRO hotels would have resident populations of up to 105 persons per acre.

The City's Neighborhood Commercial land is found in eight small areas throughout the City and are typical of the type of use and size envisioned when this designation was originally established. Also, the Newport Boulevard commercial strip north of Walnut is designated as Neighborhood Commercial.

Compatible zones include CL, C1, PDC, AP and P.



Neighborhood Commercial areas are intended for selected retail and service uses which serve a comparatively small area. General commercial areas accommodate a wider range of commercial businesses in larger shopping centers.



General Commercial:

The General Commercial designation is intended to permit a wide range of commercial uses which serve both local and regional needs. Such areas should have exposure and access to major transportation routes since significant traffic can be generated by certain commercial uses. General Commercial areas should be insulated from the most sensitive land uses, either through buffers of less sensitive uses or on-site mitigation techniques. The most intense commercial uses should be encouraged to locate on sites of adequate size and dimension to allow appropriate mitigation. Appropriate uses include those found in the Neighborhood Commercial designation plus junior department stores and specialty clothing stores, theaters, restaurants, hotels and motels, and automobile sales and service establishments.

In the General Commercial designation the allowable floor area ratio (FAR) is 0.30 retail/0.40 office. Development within this range would typically result in combinations of one- and two-story commercial buildings. Buildings in excess of two stories may be permitted in select areas where the additional height would not impact surrounding more sensitive land uses.

As shown in Table 61, the Costa Mesa General Plan Traffic Model uses the following peak hour rates in determining the trip budget for projects in this classification: the AM peak hour rate is 2.34 trip ends per 1,000 square feet, and the PM peak hour rate is 3.75 trip ends per 1,000 square feet.

Because of the wider range of uses and more building intensity permitted in the General Commercial designation, the population density with this classification will also be more intense than that found in the Neighborhood Commercial designation. Based on standards in Table 63, the standard mix of uses in this designation would generate an average population density of 27 employees per acre. A development that consisted of office use only would require up to 60 employees per acre. Residency hotels such as single room occupancy (SRO) hotels may be located in the General Commercial district. These hotels would have resident populations of up to 117 persons per acre.

Institutional uses may also be appropriate in this commercial designation, provided that land use compatibility issues have been addressed and the trip budget not exceeded. Institutional uses would require a discretionary review and approval process.

As complementary uses, residential and other noncommercial uses may be allowed through the Planned Development process provided that the site's trip budget is not exceeded. Residential densities in planned development projects are not to exceed 20 dwelling units per acre. The corresponding population density is up to 50 persons per acre. Noncommercial uses would be subject to the same floor area standards as commercial uses in this designation.

Facilities that transfer, store, or dispose of hazardous wastes that are generated at another source (off-site) are most appropriately located in the Industrial Park and Light Industry land use designations; however, a facility with a purpose and scale of operation that is compatible with this commercial designation may be allowed pursuant to the issuance of a Conditional Use Permit.

The Conditional Use Permit process shall comply with the procedures and siting criteria established by the Orange County Hazardous Waste Management Plan, the City of Costa Mesa's ordinance provisions for these type of facilities, and other State legislation, as appropriate.

Costa Mesa has several major General Commercial districts. Each of these districts is substantial in size and is extended along highways in Costa Mesa. Virtually all of the General Commercial areas have frontage on either a Primary or Major Highway as indicated on the Master Plan of Highways.

Compatible zones include C1, C2, PDC, AP and P.

Commercial Center:

The Commercial Center designation is intended for large areas with a concentration of diverse or intense commercial uses. Appropriate uses include a wide variety and scale of retail stores, professional offices, restaurants, hotels and theaters. Intense service uses, such as automobile repair and service, should be discouraged. The Commercial Center area, which is located in the downtown Redevelopment Area, has its own character and contains shopping centers, entertainment facilities, office buildings, or other commercial development appropriate for its location and purpose. The Commercial Center is intended to serve both local and regional needs. Because of the large service area, direct access to major transportation corridors is essential. Separation or buffering between Commercial Centers and sensitive land uses is also required.

Development within this designation is intended for a variety of intensities ranging from one- to four-story buildings. The allowable floor area ratio is 0.35 retail/0.45 office.

As shown in Table 61, the Costa Mesa General Plan Traffic Model uses the following peak hour rates in determining the trip budget for projects in this classification: the AM peak hour rate is 1.46 trip ends per 1,000 square feet, and the PM peak hour rate is 3.44 trip ends per 1,000 square feet.

Based upon the standards included in Table 63, anticipated population density for the standard mix of uses in the Commercial Center designation would be 45 employees per acre. A development that consisted of office use only would require up to 66 employees per acre. Residency hotels such as single room occupancy (SRO) hotels may be located in the Commercial Center district. These hotels would have resident populations of up to 131 persons per acre. Again, these estimates are generalized and should be more refined as specific development proposals are approved.

Institutional uses may also be appropriate in this commercial designation provided that land use compatibility issues have been addressed and the trip budget is not exceeded. These types of uses would require a discretionary review and approval process.

TABLE 63

SELECTED EMPLOYMENT GENERATION RATES/POPULATION
DENSITY STANDARDS FOR COMMERCIAL AND INDUSTRIAL USES

<u>COMMERCIAL USES</u>	<u>GENERATION RATE/POPULATION DENSITY STANDARD</u>
General Retail ⁽¹⁾	1 employee/450 sq.ft.
Restaurant ⁽¹⁾	1 employee/450 sq.ft.
Service Uses ⁽¹⁾	1 employee/333 sq.ft.
Corporate Headquarters	1 employee/337 sq.ft.
Office	1 employee/300 sq.ft. ⁽¹⁾
Retail Shopping Center	1 employee/500 sq.ft. ⁽¹⁾
Hotel	1 employee/2.5 rooms
 <u>INDUSTRIAL USES</u>	
Light Industry	1 employee/470 sq.ft. ⁽¹⁾
Industrial Park	1 employee/420 sq.ft. ⁽¹⁾
Office	1 employee/300 sq.ft. ⁽¹⁾
Warehouse	1 employee/750 sq.ft.
Manufacturing	1 employee/300 sq.ft.

NOTES:

- (1) Accounts for net leasable area (10% discount from gross floor area). Accounts for 8% assumed future vacancy rate.

Facilities that transfer, store, or dispose of hazardous wastes that are generated at another source (off-site) are most appropriately located in the Industrial Park and Light Industry land use designations; however, a facility with a purpose and scale of operation that is compatible with this commercial designation may be allowed pursuant to the issuance of a Conditional Use Permit. The Conditional Use Permit process shall comply with the procedures and siting criteria established by the Orange County Hazardous Waste Management Plan, the City of Costa Mesa's ordinance provisions for these type of facilities, and other State legislation, as appropriate.

As complementary uses, residential and other noncommercial uses may be allowed through the Planned Development process provided that the site's trip budget is not exceeded. Residential densities in planned development projects are not to exceed 20 dwelling units per acre. The corresponding population density range is up to 50 persons per acre. Noncommercial uses would be subject to the same floor area standards as commercial uses in this designation.

Compatible zones include C1, C1-S, PDC, AP and P.

Regional Commercial:

The Regional Commercial designation is intended to apply to large concentrated shopping centers of regional scale and importance. The intended uses within this designation include major department stores, specialty retail outlets, restaurants, offices, hotel and other complementary uses.

Application of the Regional Commercial designation is limited to the existing South Coast Plaza sites generally located north of the San Diego Freeway off Bristol and Bear Streets. This includes the original 97-acre site between Bristol and Bear Street and the 18-acre site occupied by the Crystal Court, located west of Bear Street. This designation and locational criteria recognizes the evolution of South Coast Plaza as a regionally significant retail trade center served by major regional transportation facilities and services. Population density standards for this designation are projected to be up to 53 employees per acre.

As shown in Table 61, the Costa Mesa General Plan Traffic Model uses the following peak hour rates in determining the trip budget for projects in this classification: the AM peak hour rate is 0.92, and the PM peak hour rate is 3.34, except that the trip budget for the original South Coast Plaza site is 2,300 AM peak hour trips and 8,350 PM peak hour trips.

Development within this designation is largely characterized by multi-story enclosed commercial space and parking structures. Maximum allowable floor area ratio for the Crystal Court site shall be 0.89 and the maximum floor area ratio for the original South Coast Plaza site located between Bristol Street and Bear Street shall be 0.652. In addition to these building intensities, future expansion or redevelopment of the original plaza site is also governed by the trip budget standards established in the Land Use/Circulation Coordination section of this element. Since the FAR for Crystal Court represents the existing conditions, no further development would be permitted on this site.

Complementary residential uses within this designation may be allowed through the Planned Development Zone process. The maximum allowable density within this designation shall be 20 dwelling

units per acre. In order to reach the maximum allowable intensity and density, future projects within this designation must exhibit excellence in design, site planning and integration into the surrounding community; provide a balance of jobs and housing opportunities, including the provision of low- and moderate-income housing; provide open space in excess of the minimum standards contained in the zoning ordinance.

Compatible zones include C1-S and PDC.

Urban Center Commercial:

The Urban Center Commercial designation is intended to allow intensely developed mixed commercial uses within a very limited geographic area. Developments within this designation can range from one- and two-story office and retail buildings to mid- and high-rise buildings of four to fifteen stories. Appropriate uses include offices, retail shops, restaurants, and hotels.

The Urban Center Commercial designation includes the Metro Pointe project located north of the San Diego Freeway, west of Bear Street, and most of the northeast portion of the City located north of the San Diego Freeway and east of Bristol Street, including South Coast Plaza Town Center, Metro Center and the vacant Sakioka lot 2.

Metro Pointe includes two office building sites located north of South Coast Drive at its intersection with Greenbrook Drive and approximately 30 acres of land located south of South Coast Drive along the San Diego Freeway. Future development of the Metro Pointe project is governed by a previous General Plan Amendment, two vesting tract maps and a development agreement. Building intensities authorized under these previous approvals exceed the allowable floor area ratio of 0.50 retail/0.60 office for the Urban Center designation. If the vesting maps and/or development agreements are abandoned, expire, or are terminated then the Urban Center Commercial FARs and trip rates shall govern the future development of the site. The vacant/unvested Phase IV will be governed by the Urban Center Commercial FAR limits. The General Plan Traffic Model establishes a trip budget of 2,166 AM peak hour trips and 2,703 PM peak hour trips for Metro Pointe. Using the employment generation rates in Table 63, this results in an allowable population density standard of up to 150 employees per acre.

South Coast Plaza Town Center includes over two million square feet of office development, theaters, restaurants and a hotel in approximately 62 acres. This level of intensity exceeds the allowable floor area ratio for the Urban Center Commercial designation. The Master Plan for this area indicates that a vacant site at the corner of Town Center Drive and Avenue of the Arts will be developed as a 197 room hotel or its equivalent. The trip budget for the South Coast Plaza Town Center is 4,187 AM peak hour trips and 6,213 PM peak hour trips. Using the employment generation rates in Table 63, this results in an allowable population density standard of up to 150 employees per acre.

Metro Center includes nearly 750,000 square feet of office development, with a large portion of the 46-acre site still vacant. The trip budget for Metro Center is 2,260 AM peak hour trips and 2,223 PM peak hour trips. The anticipated population density standard for Metro Center is up to 90 employees per acre.

The 33-acre Sakioka lot 2 is vacant except for the farmhouse and farm operation facilities. The trip budget for Sakioka lot 2 is 1,588 AM peak hour trips and 1,562 PM peak hour trips. The anticipated population density standard for Sakioka lot 2 is up to 90 employees per acre.

Complementary residential uses within this designation may be allowed through the Planned Development Zone process. The maximum allowable density within this designation shall be 20 dwelling units per acre. In order to reach the maximum allowable intensity and density, future projects within this designation must exhibit excellence in design, site planning and integration into the surrounding community; provide a balance of jobs and housing opportunities, including the provision of low-and moderate-income housing; provide open space in excess of the minimum standards contained in the zoning ordinance.

For mixed-use projects which include separate or distinct components, the nonresidential floor area ratio standard and the residential density standard shall apply to each of the respective components, not the entire project site. For mixed-use projects which do not include distinct elements or which include mixed-use buildings, the overall level of intensity shall be governed by the allowable nonresidential floor area ratio. In both uses, developments must also comply with the established trip budget standards.

Facilities that transfer, store, or dispose of hazardous wastes that are generated at another source (off-site) are most appropriately located in the Industrial Park and Light Industry land use designations; however, a facility with a purpose and scale of operation that is compatible with this commercial designation may be allowed pursuant to the issuance of a Conditional Use Permit. The Conditional Use Permit process shall comply with the procedures and siting criteria established by the Orange County Hazardous Waste Management Plan, the City of Costa Mesa's ordinance provisions for these type of facilities, and other State legislation, as appropriate.

Compatible zones are PDC and TC.

Industrial

Three industrial designations apply to Costa Mesa's over 1,000 industrial acres. Over 96 percent of the City's industrial area is concentrated in three districts as described in the Land Use inventory section.

Industrial Park:

The Industrial Park designation is intended to apply to large, distinct districts which contain a wide variety of industrial and compatible office and support commercial uses. Industrial Parks are characterized by large parcels and landscaped setbacks which lend to the creation of a spacious environment. Industrial Parks must have proximity to freeways and other major transportation routes in order to provide the accessibility they require. An internal circulation system consisting of lesser highways is also necessary to accommodate the vehicle demands created. Industrial Parks have major physical separations from areas designated for other uses in order to maintain their distinctiveness and avoid potential land use incompatibilities.

Typically, development within this designation would consist of one- and two-story buildings. Additional height could be permitted where compatible with adjacent development and uses or consistent with other constraints such as height limits near John Wayne Airport. The Industrial Park portion of the Home Ranch site may include buildings up to five stories in height near the center of the development. The allowable building intensity is a floor area ratio (FAR) of 0.40.



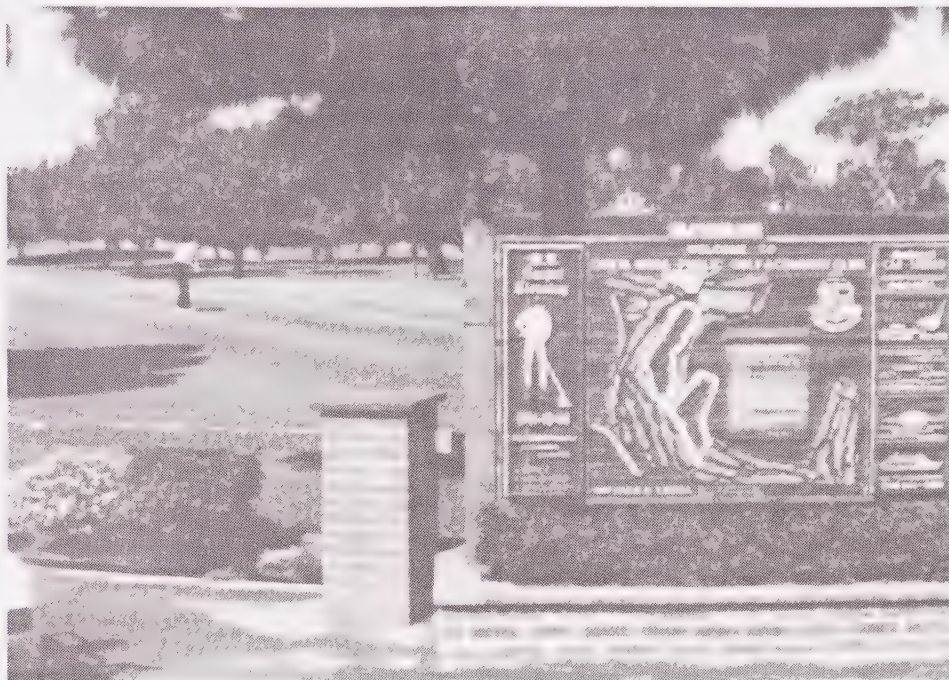
More intense levels of development are permitted in High Density Residential (up to 20 dwelling units per acre)





Industrial uses are located in the Light Industry and Industrial Park designations.





Development within the Golf Course designation is limited to public and private country clubs. Local parks account for a large portion of the land designated for public and semi-public use.



The General Plan Traffic Model uses the following peak hour rates in determining the trip budget for projects in this classification: the AM peak hour rate is 0.93 trip ends per 1,000 square feet, and the PM peak hour rate is 0.97 trip ends per 1,000 square feet (Table 64).

Anticipated population densities are dependent upon the particular mix of uses within a given project. However, based upon the standards provided in Table 63, the population density would be an average of 40 employees per acre. An office development would have a population density of 58 employees per acre.

Complementary commercial uses within this designation may be allowed provided that the commercial uses will not generate any additional AM or PM peak hour vehicle trips than what would occur if the site were developed at its maximum industrial potential as allowed by the General Plan. Institutional uses may also be appropriate in this industrial designation provided that land use compatibility issues have been addressed and the trip budget has not been exceeded. Institutional uses would require a discretionary review and approval process.

In Planned Development projects, the combination of residential, institutional and commercial uses may not exceed the AM or PM Peak hour vehicle trips that would occur if the entire project area were developed at its maximum industrial potential as allowed by the General Plan. Floor area ratios and population densities for commercial projects would be similar to the Neighborhood Commercial land use designation. Residential densities in Planned Development projects are not to exceed 20 dwelling units per acre. The corresponding population density range is up to 50 persons per acre.

Facilities that transfer, store or dispose of hazardous wastes that are generated at another source (off-site) may be allowed in this land use designation, pursuant to the issuance of a Conditional Use Permit. The Conditional Use Permit process shall comply with the procedures and siting criteria established by the Orange County Hazardous Waste Management Plan, the City of Costa Mesa's ordinance provisions for these type of facilities, and other State legislation, as appropriate.

Costa Mesa's Industrial Park land is divided between the North Costa Mesa and Airport Industrial Districts as discussed in the Land Use Inventory section. Both are developed with industrial and office uses as envisioned by the Industrial Park designation.

Compatible zones include MP, PDI and CL.

Light Industry:

The Light Industry designation specifies areas intended for a variety of light and general industries. Uses in such areas are expected to be small manufacturing and service industries as well as larger industrial operations. Although the uses within Light Industry areas are intended to be less intense than those allowed in Industrial Parks, the frequent lack of a physical separation between Light Industry areas and residential areas necessitates on-site mitigation. Highway access to such areas should be provided in a manner which directs industrial traffic away from more sensitive uses.

Development within this designation would be characterized by a combination of one- and two-story buildings. Because of the location of Light Industry areas and their proximity to residential uses, higher buildings should be restricted to areas which will not impact the surrounding more sensitive uses. The allowable building intensity is a floor area ratio (FAR) of 0.35.

As shown in Table 62, the Costa Mesa General Plan Traffic Model uses the following peak hour rates in determining the trip budget for projects in this classification: the AM peak hour rate is 0.96 trip ends per 1,000 square feet, and the PM peak hour rate is 1.03 trip ends per 1,000 square feet.

The average population density would be 31 employees per acre, and 53 employees per acre for office uses based upon the standards provided in Table 63.

Complementary commercial uses within this designation may be allowed provided that the commercial uses will not generate any additional AM or PM peak hour vehicle trips than what would occur if the site were developed at its maximum industrial potential as allowed by the General Plan.

Institutional uses may also be appropriate in this industrial designation provided that land use compatibility issues have been addressed and the trip budget has not been exceeded. Institutional uses would require a discretionary review and approval process.

In Planned Development projects, the combination of residential, institutional and commercial uses may not exceed the AM or PM peak hour vehicle trips that would occur if the entire project area were developed at its maximum industrial potential as allowed by the General Plan. Floor area ratios and population densities for commercial projects would be similar to the Neighborhood Commercial land use designation. Residential densities in Planned Development projects are not to exceed 20 dwelling units per acre. The corresponding population density range is up to 50 persons per acre.

The 30-acre area located west of Whittier Avenue is designated Light Industry in recognition of the existing development in the area. Nevertheless, the area may lend itself to residential development in the future. Therefore, this area has an underlying Low Density Residential designation that can be activated concurrently with the development of a Specific Plan. The Specific Plan would address the issues of transitioning from industrial to sensitive residential uses.

Facilities that transfer, store or dispose of hazardous wastes that are generated at another source (off-site) may be allowed in this land use designation, pursuant to the issuance of a Conditional Use Permit. The Conditional Use Permit process shall comply with the procedures and siting criteria established by the Orange County Hazardous Waste Management Plan, the City of Costa Mesa's ordinance provisions for these type of facilities, and other State legislation, as appropriate.

The majority of the City's Light Industry land is located in the Southwest Industrial District. This district directly adjoins residential areas (primarily High Density Residential) to the

Development within this designation would be characterized by a combination of one- and two-story buildings. Because of the location of Light Industry areas and their proximity to residential uses, higher buildings should be restricted to areas which will not impact the surrounding more sensitive uses. The allowable building intensity is a floor area ratio (FAR) of 0.35.

As shown in Table 62, the Costa Mesa General Plan Traffic Model uses the following peak hour rates in determining the trip budget for projects in this classification: the AM peak hour rate is 0.96 trip ends per 1,000 square feet, and the PM peak hour rate is 1.03 trip ends per 1,000 square feet.

The average population density would be 31 employees per acre, and 53 employees per acre for office uses based upon the standards provided in Table 63.

Complementary commercial uses within this designation may be allowed provided that the commercial uses will not generate any additional AM or PM peak hour vehicle trips than what would occur if the site were developed at its maximum industrial potential as allowed by the General Plan.

Institutional uses may also be appropriate in this industrial designation provided that land use compatibility issues have been addressed and the trip budget has not been exceeded. Institutional uses would require a discretionary review and approval process.

In Planned Development projects, the combination of residential, institutional and commercial uses may not exceed the AM or PM peak hour vehicle trips that would occur if the entire project area were developed at its maximum industrial potential as allowed by the General Plan. Floor area ratios and population densities for commercial projects would be similar to the Neighborhood Commercial land use designation. Residential densities in Planned Development projects are not to exceed 20 dwelling units per acre. The corresponding population density range is up to 50 persons per acre.

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Facilities that transfer, store or dispose of hazardous wastes that are generated at another source (off-site) may be allowed in this land use designation, pursuant to the issuance of a Conditional Use Permit. The Conditional Use Permit process shall comply with the procedures and siting criteria established by the Orange County Hazardous Waste Management Plan, the City of Costa Mesa's ordinance provisions for these type of facilities, and other State legislation, as appropriate.

The majority of the City's Light Industry land is located in the Southwest Industrial District. This district directly adjoins residential areas (primarily High Density Residential) to the

north, which requires careful attention to design. The area is divided into quadrants by Secondary and Commuter Highways. The north-south highways pass through residential areas before reaching the Southwest District.

Compatible zones include MG, PDI and CL.

Institutional

Costa Mesa's large portion of land set aside for public, semi-public, and open space type uses is designated under one of three Land Use classifications: Public and Semi-Public, Golf Course, and the Fairgrounds.

Public and Semi-Public:

The Public and Semi-Public designation is intended for both publicly and privately owned land which provided recreation, open space, health, and educational opportunities as well as uses which provide a service to the public.

Since this broad designation includes many types of land uses, it has been future refined by including subcategories on the land use map. The subcategories consist of: park, institutional, and resource conservation.

Areas in Costa Mesa which are or which could be included under this designation are the City and regional park sites, hospitals, educational institutions, religious facilities, fairgrounds, and public facilities. The 9.5 acre Civic Center is within this designation. As many of the uses in this designation are recreational, and open space in nature, levels of building intensity are minimal. The proposed maximum building intensity considered by this designation is a floor area ratio (FAR) of 0.25 and a population density of 44 employees per acre. Trip budgets shall be based upon an AM trip rate of 2.00 trips per 1,000 sq.ft. of floor area and a PM trip rate of 1.97 trips per 1,000 sq.ft. of floor area.

Facilities that transfer, store, or dispose of hazardous wastes that are generated at another source (off-site) are most appropriately located in the Industrial Park and Light Industry land use designations; however, a facility with a purpose and scale of operation that is compatible with this designation may be allowed pursuant to the issuance of a Conditional Use Permit. The Conditional Use Permit process shall comply with the procedures and siting criteria established by the Orange County Hazardous Waste Management Plan, the City of Costa Mesa's ordinance provisions for these type of facilities, and other State legislation, as appropriate.

Compatible zones include I&R, I&R-S and P.

Golf Course:

Three golf courses are located within the City's planning area. Two of these, the City's course and Mesa Verde Country Club, are located within the current City limits. Santa Ana Country Club is in unincorporated area east of Newport Boulevard. Because of the large area devoted to open space, the proposed building intensities

north, which requires careful attention to design. The area is divided into quadrants by Secondary and Commuter Highways. The north-south highways pass through residential areas before reaching the Southwest District.

Compatible zones include MG, PDI and CL.

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Areas in Costa Mesa which are or which could be included under this designation are the City and regional park sites, hospitals, educational institutions, religious facilities, fairgrounds, and public facilities. The 9.5 acre Civic Center is within this designation. As many of the uses in this designation are recreational, and open space in nature, levels of building intensity are minimal. The proposed maximum building intensity considered by this designation is a floor area ratio (FAR) of 0.30 and a population density of 44 employees per acre. Trip budgets shall be based upon an AM trip rate of 2.00 trips per 1,000 sq.ft. of floor area and a PM trip rate of 1.97 trips per 1,000 sq.ft. of floor area.

Facilities that transfer, store, or dispose of hazardous wastes that are generated at another source (off-site) are most appropriately located in the Industrial Park and Light Industry land use designations; however, a facility with a purpose and scale of operation that is compatible with this designation may be allowed pursuant to the issuance of a Conditional Use Permit. The Conditional Use Permit process shall comply with the procedures and siting criteria established by the Orange County Hazardous Waste Management Plan, the City of Costa Mesa's ordinance provisions for these type of facilities, and other State legislation, as appropriate.

Compatible zones include I&R, I&R-S and P.

Golf Course:

Three golf courses are located within the City's planning area. Two of these, the City's course and Mesa Verde Country Club, are located within the current City limits. Santa Ana Country Club is in unincorporated area east of Newport Boulevard. Because of the large area devoted to open space, the proposed building intensities

and population densities with this designation are negligible (less than 0.01 FAR and less than one employee per acre.) Trip budgets shall be based upon an AM trip rate of 0.27 trips per acre and a PM trip rate of 0.39 trips per acre.

The compatible zone is I&R.

The Fairgrounds:

This designation recognizes the unique land uses associated with the 150-acre Orange County Fairgrounds and Exposition Center which includes the Pacific Amphitheater. This property is owned by the State of California; therefore, the City has no permitting authority. However, it is the goal of the City to work closely with the State to ensure that the impacts associated with the development and use of this site are appropriately addressed and mitigated. Of particular concern are traffic-related impacts and land use compatibility.

The maximum allowable floor area ratio for this designation shall be less than 0.10. The General Plan Traffic Model assumes 358 AM peak hour trips and 1,383 PM peak hour trips for the entire Fairgrounds.

The compatible zone is I&R.

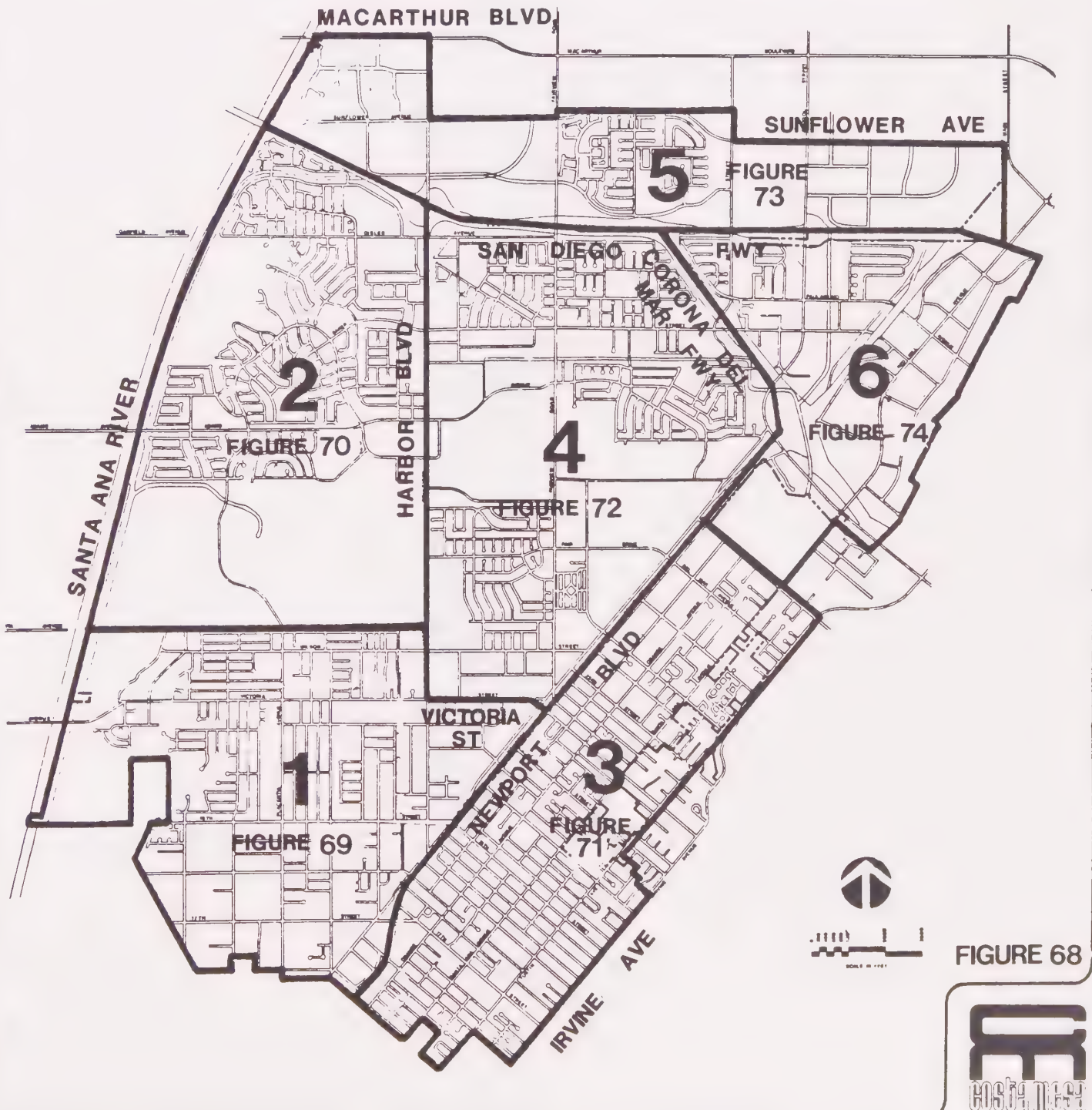
LAND USE MAP

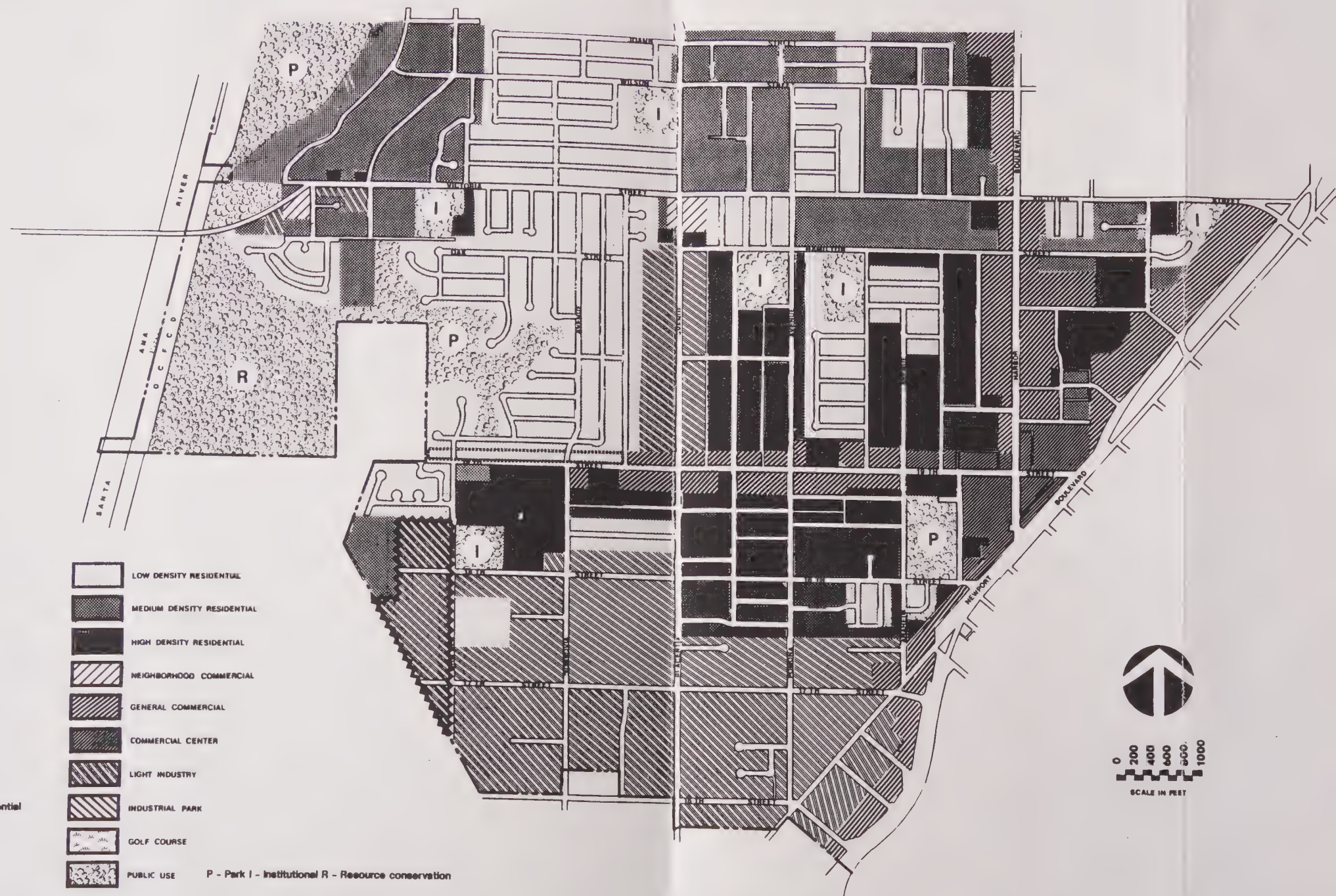
The General Plan Land Use Map indicates the location of the various land use designations within the City and its Sphere of Influences. For ease of reference, the City's Land Use Map has been divided into six Planning Areas (Figures 69-74). Figure 68 provides a key to the planning areas.

KEY MAP

Land Use Element Planning Area Maps

For study purposes, the City of Costa Mesa is divided into 6 Planning Areas. Land Use Element maps have been prepared for each of these areas in order to allow greater accuracy in this report. The below key map identifies the boundaries of each Planning Area and the figure number of each Land Use Element map. The individual figures are found on the following pages.

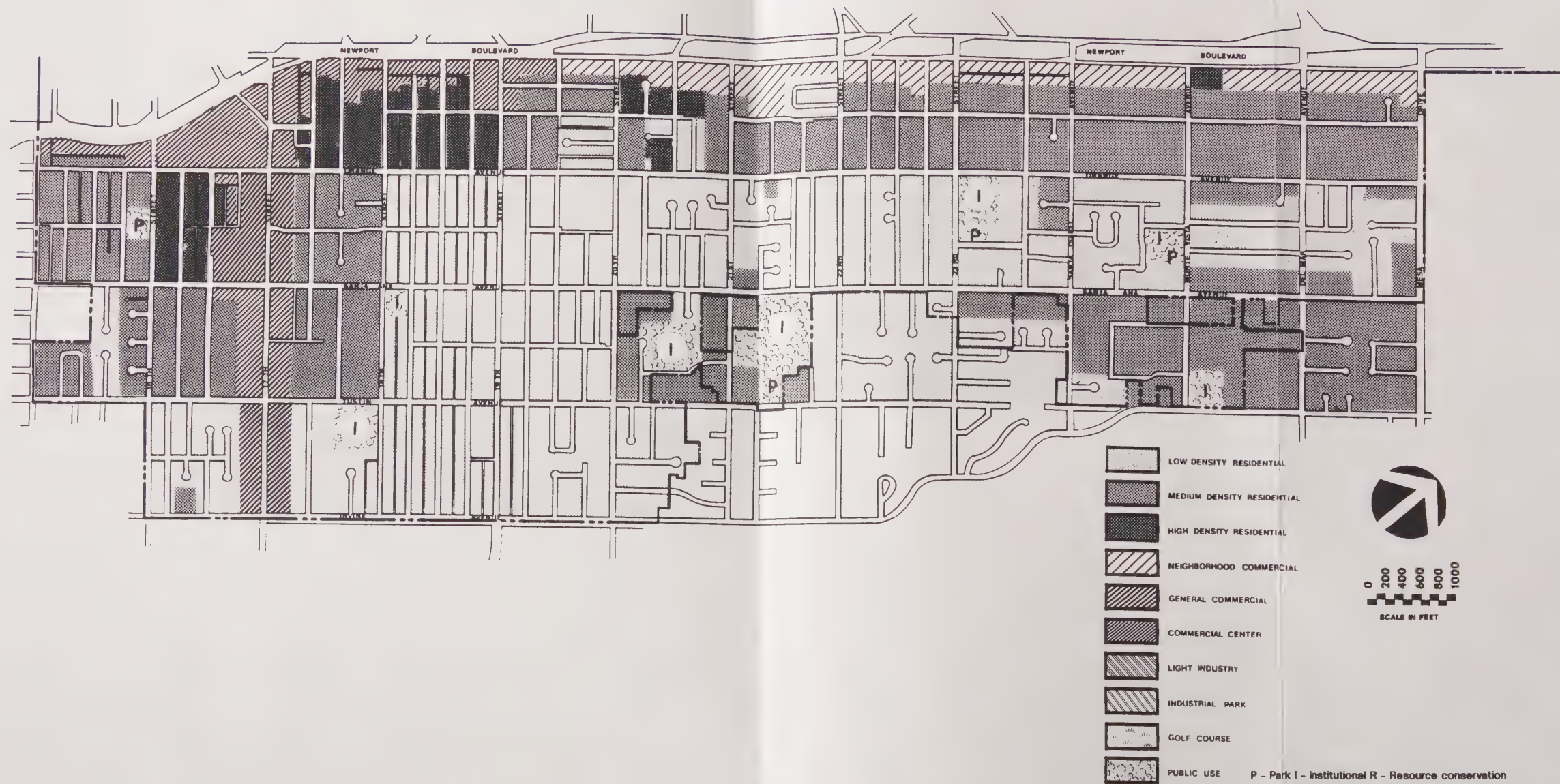




GENERAL PLAN LAND USE ELEMENT **PLANNING AREA 1**

FIGURE 69

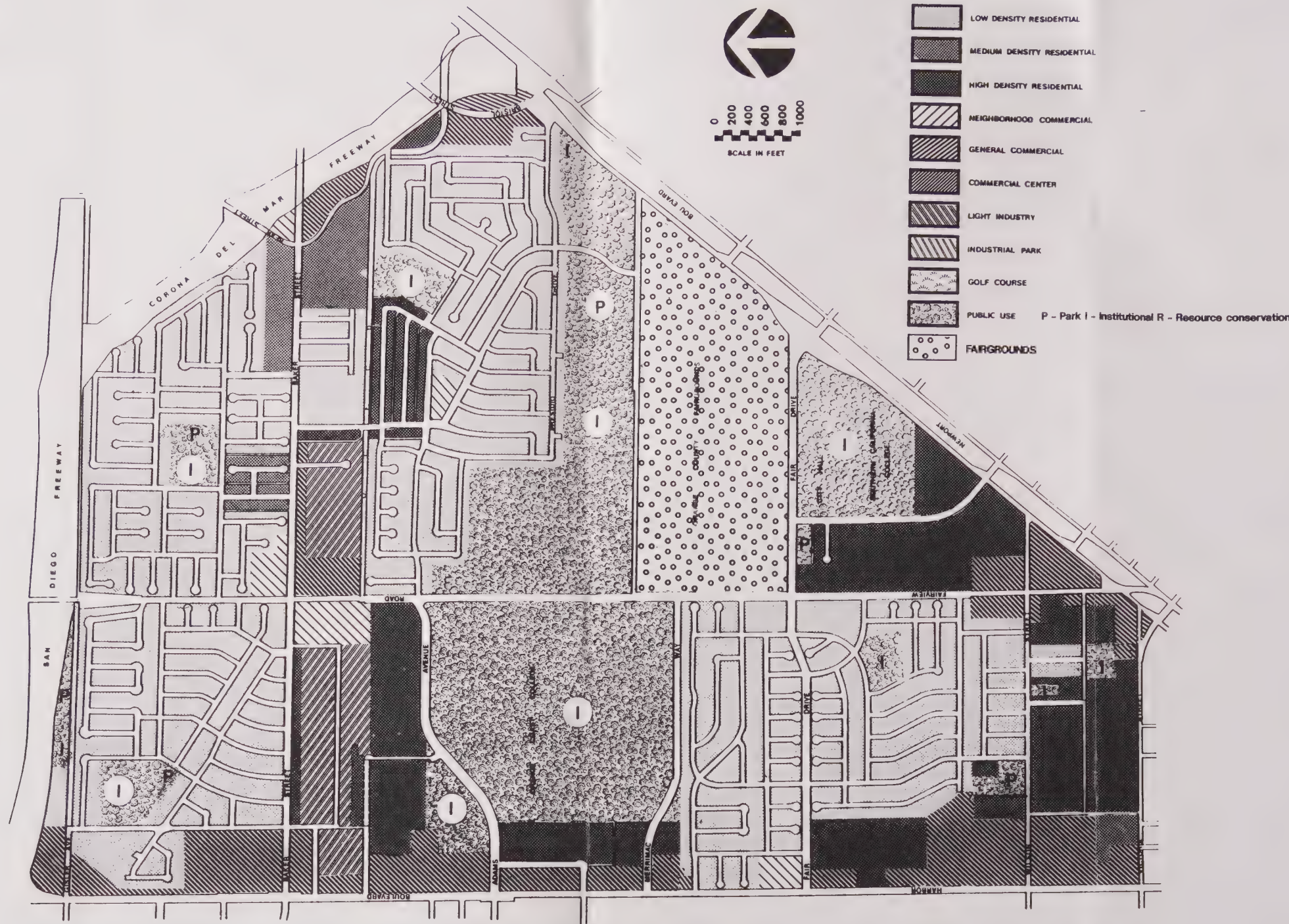




GENERAL PLAN LAND USE ELEMENT **PLANNING AREA 3**

FIGURE 71

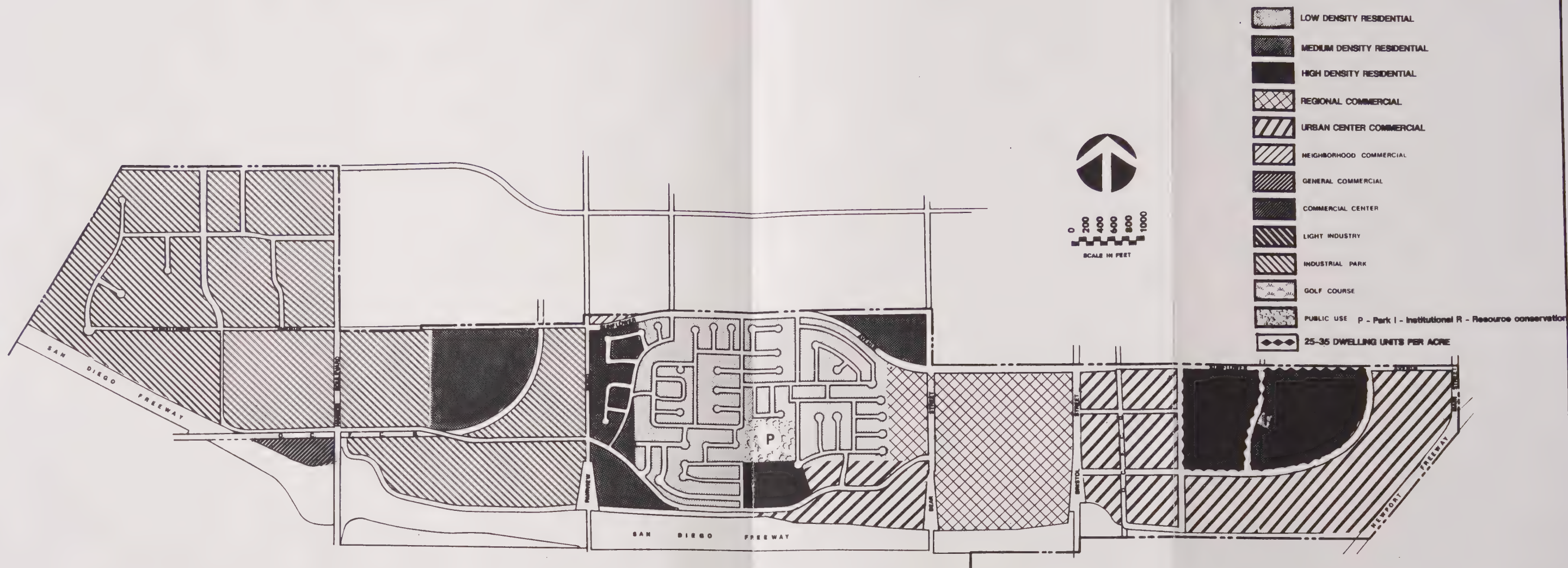
ADOPTED MARCH 16, 1992
CITY COUNCIL RESOLUTION #92-27



GENERAL PLAN LAND USE ELEMENT
PLANNING AREA 4

FIGURE 72

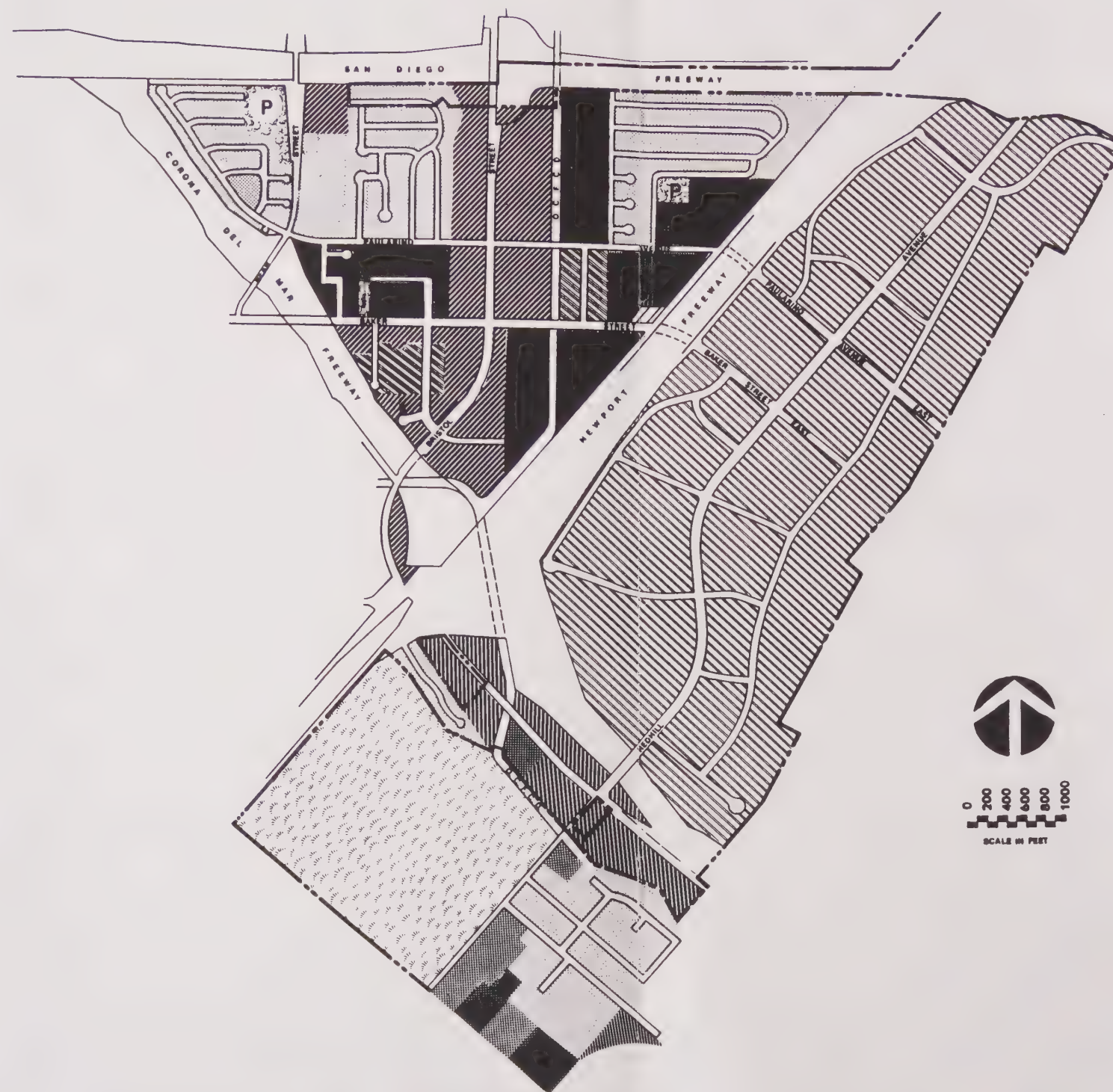




GENERAL PLAN LAND USE ELEMENT
PLANNING AREA 5

FIGURE 73





- LOW DENSITY RESIDENTIAL
- MEDIUM DENSITY RESIDENTIAL
- HIGH DENSITY RESIDENTIAL
- NEIGHBORHOOD COMMERCIAL
- GENERAL COMMERCIAL
- COMMERCIAL CENTER
- LIGHT INDUSTRY
- INDUSTRIAL PARK
- GOLF COURSE
- PUBLIC USE P - Park I - Institutional R - Resource conservation

GENERAL PLAN LAND USE ELEMENT **PLANNING AREA 6**

FIGURE 74

GOALS, OBJECTIVES AND POLICIES

The goals, objectives and policies of the Costa Mesa General Plan that address land use are as follows:

84. Establish land use policies (balanced uses, integration of compatible uses, and concentration of development along major arterials or in close proximity of major employment centers) which support ridesharing programs, reduce traffic congestion, and improve air quality.
101. Discourage sensitive land uses from locating in the 65 CNEL noise contour of the John Wayne Airport. Should it be deemed by the City as appropriate and/or necessary for a sensitive land use to locate in the 65 CNEL noise contour, ensure that appropriate interior noise levels are met and that minimal outdoor activities are allowed.

GOAL III: DEVELOPMENT

It is the goal of the City of Costa Mesa to establish development policies which will create and maintain an aesthetically pleasing and functional environment and minimize impacts on existing physical and social resources.

Objective III-A: Encourage new development and redevelopment to improve and maintain the quality of the environment.

111. Use eminent domain in redevelopment project areas when necessary to effect lot combination and to ensure optimum size and configuration of parcels experiencing development pressures.
112. Continue to implement, review, and update the redevelopment plan for the adopted project area.
113. Prepare a specific plan to ensure that the portion of the Route 55 extension from 19th Street through the Redevelopment Area is compatible with the Redevelopment Area and to review development related issues on the remainder of the alignment.
114. In the event of damage or destruction, allow any legal conforming use in existence at the time of adoption of the 1990 General Plan in a nonconforming development to be rebuilt to its original building intensity, as long as any such rebuilding would not increase the development's nonconformity, and the damage or destruction was in no way brought about by intentional acts of any owner of such use.
115. Develop standards, policies, and other methods to encourage the grouping of individual parcels to eliminate obsolete subdivision patterns and to provide improved living environments while retaining the single-family zoning or single-family character of such areas in the City.

116. Strictly enforce development standards and zoning ordinances without permitting an increased unit when a proposed project does not meet the square foot requirements of the zone so as to prohibit a "rounding up", except for existing Medium Density Residential lots less than 7,260 sq.ft., but not less than 6,000 sq.ft. where density calculation fractions equal to or greater than 1.65 may be rounded to two units.
117. Allow creation of parcels without street frontage if sufficient easements are provided for planned developments or condominium developments.
118. Develop review criteria to discourage retention of blighted or obsolete structures on sites where new development is planned.
119. Identify deficiencies and upgrade existing public service facilities (streets, alleys, utilities).
120. Develop policies and standards to provide a balanced mix of residential uses within the Redevelopment Area including the provisions of single-family homes and R1 within the Redevelopment Area.
121. Encourage the inclusion of art and aesthetically pleasing architecture into new development and redevelopment that will have the effect of perpetuating the image of the City of the Arts; this should also be compatible with surrounding architecture.
122. Reevaluate current parking standards for residential developments.
123. Encourage increased private market investment in declining or deteriorating neighborhoods.
124. Improve east-west circulation through the Redevelopment Area and avoid the closure of east-west connectors.
177. Encourage the integration of compatible land uses and housing into major development projects to reduce vehicle use.
178. Land uses permitted by the General Plan which generate high traffic volumes should be located near major transportation corridors and public transit facilities to minimize vehicle use, congestion, and delay.
192. Maintain balance between land use and circulation systems by phasing new development to levels which can be accommodated by roadways existing or planned to exist at the time of completion of each phase of the project.

GOAL VII: LAND USE

It is the goal of the City of Costa Mesa to provide its citizens with a balanced community of residential, commercial, industrial, recreational, and institutional uses to satisfy the needs of the social and economic segments of the population and to retain the residential character of the City; to meet the competing demands for alternative developments within each land use classification within reasonable land use intensity limits; and, to ensure the long term viability and productivity of the community's natural and man-made environments.

Objective VII-A: Establish and maintain a balance of land uses throughout the community to preserve the residential character of the City at a level no greater than can be supported by the infrastructure.

224. Provide for the development of a mix and balance of housing opportunities, commercial goods and services, and employment opportunities in consideration of the needs of the business and residential segments of the community.
225. Consider the effects of new employment, particularly in relation to housing impacts, when new commercial or industrial development is proposed.
226. Locate high intensity developments or high traffic generating uses away from low density residential in order to buffer the more sensitive land uses from the potentially adverse impacts of the more intense development or uses.
227. Strongly encourage the development of low density residential uses where feasible to improve the balance between rental and ownership housing opportunities.
228. Strongly encourage the development of owner-occupied housing.
229. Provide a balance of housing and employment opportunities within planned development areas to the extent feasible.
230. Pursue means to increase the stock of detached single-family housing by development of small-lot subdivision standards to be applied in a Medium Density Residential classification.
231. Aggressively pursue methods to discourage the development of multiple units on long, narrow, single parcels. Possible methods could include a lot combination zoning incentive or the creation of new lower density zoning to be applied to lots with less than a certain minimum frontage.

Objective VII-B: Ensure the long term productivity and viability of the community's economic base.

232. Create an environment where business can succeed while being in harmony with other City goals.
233. Provide levels of public improvements and services necessary to support the existing level of business activity, and allow for the expansion of business opportunities in the future at a level no greater than can be supported by the infrastructure.
234. Permit adequate quantities and locations of commercial land to serve residential neighborhoods.
235. Adopt development standards to encourage developments to utilize common parking areas and driveways to reduce the number of ingresses and egresses to major arterials.

Objective VII-C: Promote land use patterns and development which contribute to community and neighborhood identity.

236. Permit the construction of buildings over two stories or 30 feet only when it can be shown that the construction of such structures will not adversely impact surrounding developments and deprive existing land uses of adequate light, air, privacy, and solar access.
237. Establish a height limit of four stories above grade south of the I-405 Freeway, except for special purpose housing, such as elderly, affordable, or student housing.
238. Prohibit construction of buildings which would present a hazard to air navigation as determined by the FAA or independent studies by qualified private consultants that have been certified by the FAA as true and correct.
239. Encourage the use of common design elements in signs for commercial and industrial centers through the development of planned sign programs to improve center identity by publicizing the benefits of such programs to developers and local business operators.
240. Require building setbacks, structure orientation, and the placement of windows to consider the privacy of adjacent residential structures within the same project or adjacent existing residential structures.
241. Prior to the installation of traffic amenities or the closure of through streets in existing neighborhoods and districts, prepare feasibility studies to determine the costs, constraints, environmental impacts, and public receptiveness, and consider alternative measures such as landscaped pockets in parking lanes.
243. Develop incentives for combination, or disincentives for development without lot combination. Consider policies such as zoning designations which fall between zones or

through development standards which tie density to lot width as well as area.

244. Encourage the use of entrance patios, courtyards, plazas, arcades, porches, and covered walks to integrate adjacent development into the public streetscape.
245. Develop design standards and guidelines for the placement of street furniture elements within and adjacent to public rights-of-way.
246. Consolidate compatible street furniture elements (benches, bus shelters, newspaper racks, trash receptacles, kiosks, etc.) whenever possible.
247. Develop design standards and guidelines for the placement of public street graphics, street signs, locational and directional signs, traffic signs, etc., within and adjacent to public rights-of-way.
248. Consolidate street graphics and individual signs into single support structures where appropriate and compatible with the purpose and function of such informational, directional, and traffic control graphics.
249. Develop compatible landscape palettes which can be used along major arterials to provide a harmonious and unified parkway treatment with full consideration to the maintenance, water, and energy requirements.
250. Provide assistance to neighborhoods with special problems such as walls for sound attenuation, development of landscaped greenbelts, etc.

Objective VII-E: Ensure correlation between buildout of the General Plan Land Use Map and the Master Plan of Highways.

255. Building densities/intensities for proposed new development projects (based on floor area ratio standards in the General Plan) shall not exceed the trip budget for such uses.
256. Allow the application of transportation management rideshare programs, integration of complementary land uses, and other methods to reduce project related average daily and peak hour vehicle trips in order to achieve consistency with the allocated trip budget.
257. Require a Conditional Use Permit that is reviewed annually for the approval of a transportation management program or similar method to reduce project related trips.
258. Develop implementing procedures and/or an ordinance that ensures that future change of land uses will not cause the

approved maximum building intensity for a project and/or parcel to be exceeded.

- 260. Protect existing stabilized residential neighborhoods, included but not limited to mobile home parks and manufactured housing parks, from the encroachment of incompatible or potentially disruptive land uses and/or activities.
- 263. Provide incentives (loans, grants) from the Redevelopment Agency or the City to homeowners in existing owner-occupied residences within the Redevelopment Area to use for the rehabilitation of their property.
- 265. Install and upgrade public service facilities (streets, alleys, and utilities) to encourage increased private market investment in declining or deteriorating neighborhoods.

GOAL X: PROVISION OF ADEQUATE SITES

It is the goal of the City of Costa Mesa to provide adequate, suitable sites for residential use and development of a range of housing that varies sufficiently in terms of cost, design, size, location, and tenure to meet the housing needs of all segments of the community at a level no greater than that which can be supported by the infrastructure.

- 284. Ensure that residential densities can be supported by the infrastructure and that high density residential areas are not permitted in areas which cause incompatibility with existing single-family areas.
- 285. Encourage the conversion of existing marginal or vacant commercial and/or industrial land to residential, where feasible and consistent with environmental conditions suitable for new residential development. This does not preclude the initiation of such actions by the City.
- 286. Provide opportunities for the development of well planned and designed projects which, through vertical or horizontal integration, provide for the development of compatible residential, commercial, industrial, institutional, or public uses within a single project or neighborhood.
- 287. Cooperate with large employers, the Chamber of Commerce, and major commercial and industrial developers to identify and implement programs to balance employment growth with the ability to provide housing opportunities affordable to the incomes of the newly created job opportunities.
- 290. Consider the potential impact on housing opportunities and existing residential neighborhoods when reviewing rezone petitions affecting residential properties.

292. Identify potential sites for residential development and emergency shelters for the homeless.
302. Review existing neighborhoods which are zoned R2 but developed largely with single-family residences and redesignate these areas as Low Density Residential to encourage preservation of owner-occupied dwelling units where feasible.

REFERENCES

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3. Costa Mesa General Plan Traffic Analysis, Austin-Foust Associates, Inc., April 1991.
4. Redevelopment Plan for the Costa Mesa Downtown Redevelopment Project. Costa Mesa Redevelopment Agency; October 1973; amended June 1977.
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6. Specific Plan SP-79-01, City of Costa Mesa; March 1979.
7. An Evaluation of Redevelopment Potential, Plans, and Strategies for the Costa Mesa Redevelopment Agency, A Panel Advisory Service Report by ULI - the Urban Land Institute, January 30 - February 4, 1983.
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City of
COSTA MESA

GROWTH
MANAGEMENT
ELEMENT

GROWTH MANAGEMENT ELEMENT

The Growth Management Element is divided into five major sections. The first section provides a statement of purpose and intent for the element and the second provides an introduction and overview of the element and its relation to other General Plan elements. The third section provides general definitions for terms utilized in the element. Goals, objectives and policies are included in the fourth section. Finally, the last section includes a series of implementation programs to carry out the established goals, objectives and policies.

STATEMENT OF PURPOSE AND INTENT

The purpose and intent of the Growth Management Element is to ensure that growth and development within the community are based upon the city's ability to provide an adequate circulation system pursuant to the Revised Traffic Improvement and Growth Management Ordinance (Measure M) approved by Orange County voters in November 1990.

INTRODUCTION

Background

The Revised Traffic Improvement and Growth Management Ordinance authorized the imposition of an additional one half cent retail sales tax within Orange County to provide a source of funding for countywide transportation projects. Effective April 1, 1991, Measure M is expected to provide \$3.1 billion countywide during its 20-year life. Costa Mesa's share of this total is expected to approach \$34 million.

Portions of the monies received from the new sales tax revenue will be returned to local jurisdictions for use on local and regional transportation improvements and maintenance projects. In order to qualify for the new revenues, Measure M requires each local jurisdiction to comply with the Orange County Division, League of California Cities Countywide Traffic Improvement and Growth Management Program which was included by reference in Measure M. One of the requirements of this program is the adoption of a local Growth Management Element. This element has been drafted based upon the model Growth Management Element approved by the Regional Advisory and Planning Council to comply with this requirement.

The model element includes options for both "developed" and "developing" communities. Developed communities are only required to include land use and transportation related policies and programs within their local element. Developing communities are required to also include policies and programs for other public services and facilities. Because Costa Mesa's inventory of private land is 96% developed, this Growth Management Element was prepared under the provisions for "developed" communities.

Overview

The Growth Management Element contains policies for the planning and provision of traffic improvements that are necessary for orderly growth and development. The element also contains goals, objectives and policies that establish specific traffic level of service (LOS) standards and development mitigation, phasing and monitoring policies. Implementation programs related to each policy area are also included.

Many of the policies and implementation programs within this element are also addressed in the Land Use Element and in the Transportation subelement of the Community Development/Management Element of the General Plan. Where possible, cross references to these policies are provided or incorporated into this element to comply with the requirement of Measure M to have a separate and distinct Growth Management Element.

Consistency With Other General Plan Elements

A major goal of the Growth Management Element is to ensure that the planning, management and implementation of traffic improvements are adequate to meet current and projected needs of the city. While this goal is a high priority, it must be achieved while maintaining internal consistency among other General Plan elements as required by state law. Therefore, the Growth Management Element does not replace or supersede any other elements of this General Plan: instead, this element addresses, amplifies and supports existing standards and policies that are included in other portions of the General Plan. This element also serves to augment development mitigation, phasing and monitoring discussions in other General Plan elements.

In this regard, the Growth Management Element most closely interacts with the Land Use Element and the Transportation Subelement of the General Plan. In a sense, this Growth Management Element serves as the bridge which connects and maintains correlation between the two elements as required by state planning law. This is especially true for the transportation management and project phasing policies contained in the other elements.

Linkages or direct interaction with the other portions of the General Plan are more limited. Where necessary, internal consistency will be maintained by ensuring that land use approvals and/or circulation system improvements authorized or required under the provisions of the Growth Management Element are adequately reviewed for conformance with other goals, objectives and policies. This will be especially important for those related to noise, air quality, housing and public facilities and services.

Implementation Process

While the Growth Management Element provides a significant resource document for future growth management efforts, it is not the final action necessary to establish a comprehensive growth management program for the city. Rather, the intent is to establish the basic policy framework in the General Plan for future implementing actions and programs.

A significant implementation work effort is required in order to accomplish the established goals and objectives of the element. It is anticipated that the required implementation programs will be completed in phases with some being implemented immediately (such as the participation in inter-jurisdictional planning forums) while others (such as the citywide development mitigation impact fee) must await other implementing actions. Because of the mandate and purpose Measure M, the city will proceed with diligence to ensure completion of the implementation procedures as quickly as possible.

Privately initiated land use amendments, rezones and other discretionary projects considered before adoption of the implementing ordinances will still be reviewed for conformance with the policy direction provided by this element.

Relationship to State and Federal Highway System

While the Growth Management Element addresses the need for the phasing of arterial highway improvements, it is recognized that the Federal and State highway system is a significant component of the city's overall transportation system. This is especially true because three freeways - the San Diego, the Corona del Mar and the Costa Mesa - traverse the community.

(A) Existing Freeway System Deficiencies

Countywide, a significant portion of the transportation problems stems from the inadequate capacity of the freeway system to serve peak period travel demands. This lack of capacity has resulted in poor levels of service, characterized by severe congestion and low travel speeds during both peak and off-peak hours. These conditions are aggravated in Costa Mesa because of the incomplete nature of the Costa Mesa Freeway and the missing connectors between the Costa Mesa and the Corona del Mar Freeways.

(B) Impact of Freeway System on the Arterial Highway System

Arterial highways are intended to handle the bulk of intra-regional traffic and to complement the freeway system and the local street network. As congestion continues to increase on

the freeway system, more drivers utilize the arterial system, particularly those parallel to freeways, or those arterials serving the same trip destinations as the freeways. Consequently, these arterials are becoming increasingly congested. This is especially true for those arterials which provide direct access to the freeway system. Portions of all of the major north-south arterials (i.e. Harbor Boulevard, Fairview Road and Bristol Street) and the east-west arterials (Adams Avenue, Baker Street, Paularino Avenue, Victoria Street, Wilson Street and 19th Street) are impacted by these problems.

DEFINITIONS

For the purposes of this element, the following terms are defined below:

1. **CAPITAL IMPROVEMENT PROGRAM** shall mean a multi-year plan which outlines a seven-year list of capital improvement projects to be undertaken by the city. The program contains: 1) the proposed project improvement; 2) the funding source; and 3) the estimated cost in current dollars.
2. **CRITICAL MOVEMENT** shall mean any of the conflicting through or turning movements at an intersection which determines the allocation of green signal time.
3. **DEFICIENT INTERSECTION FUND** shall mean a trust fund established to implement necessary improvements to existing intersections which do not meet the established level of service standard adopted in this element. Such a fund will be established from transportation fees mutually agreed upon by the Growth Management Area Inter-Jurisdictional Planning Forum in which the city participates.
4. **DEFICIENT INTERSECTION LIST** shall mean a list of intersections that: 1) do not meet the established level of service standard policy for reasons that are beyond the control of the city (i.e. ramp metering effects, traffic generated outside the city's jurisdiction, etc.); and 2) projects currently on the Seven-Year Capital Improvement Program. Additional intersections may be added by the city only as a result of conditions which are beyond the control of the city.
5. **DEVELOPMENT PHASING PROGRAM** shall mean a program which establishes the requirement that building permits shall be approved or issued in a manner that assures implementation of required transportation improvements.
6. **GROWTH MANAGEMENT AREAS (GMA'S)** shall mean subregions of the County established by the Regional Advisory and Planning Council to promote inter-jurisdictional coordination in addressing infrastructure concerns and in implementing needed improvements.

7. **GROWTH MANAGEMENT ELEMENT** shall mean the Growth Management Element of the city's General Plan as required by the Revised Traffic Improvement and Growth Management Ordinance (Measure M).
8. **LOCAL TRANSPORTATION AUTHORITY** shall mean the body responsible for the implementation of Measure M as designated by the Orange County Board of Supervisors - the Orange County Transportation Authority.
9. **MEASURABLE TRAFFIC** shall mean a traffic volume resulting in a one percent increase in peak hour traffic in any critical movement at an intersection.
10. **MEASURE M** refers to the Revised Traffic Improvement and Growth Management Ordinance adopted by Orange County voters on November 6, 1990.

GOALS, OBJECTIVES AND POLICIES

As noted earlier, the Growth Management Element has direct linkages to the transportation management and land use phasing goals and policies in the General Plan. Many of these were established through adoption of the Transportation Management Element in September 1988 and reaffirmed by the adoption of the 1990 General Plan in 1992. Specifically, Goal VI (Transportation Management), Objectives VI-A through VI-D and Policies 200 through 221 were included within this element.

The goals, objectives and policies of the Growth Management Element are designed to complement and reinforce existing General Plan policy commitments to balanced land use and transportation planning principles. Where necessary, new policies restate existing policy language to comply with the unique provisions of the growth management requirements of Measure M.

The goals, objectives and policies of the Growth Management Element are as follows:

GOAL XIV: GROWTH MANAGEMENT

It is the goal of the City of Costa Mesa to reduce traffic congestion and to ensure that adequate transportation facilities are provided for existing and future residents of the community through effective and comprehensive growth management practices consistent with the Land Use Element.

Objective XIV-A:

To provide and maintain a circulation system that operates within established traffic level of service standards.

Policies:

The following policies have been established to implement Objective XIV-A:

- 306. The established traffic level of service shall be level of service (LOS) D or better for all intersections under the sole control of the city, except for the intersection of Harbor and Gisler which shall have an established level of service (LOS) E or better.
- 307. The established level of service standard shall not apply to intersections under the jurisdiction of another city, the County of Orange or the State of California or to intersections included on the Deficient Intersection List established by the Inter-Jurisdictional Planning Forum for the Growth Management Area in which the city participates.
- 308. The traffic level of service will be measured by the Traffic Level of Service Policy Implementation Manual established by the Local Transportation Authority.

Objective XIV-B:

To ensure that the transportation related impacts of development projects are mitigated to the fullest extent possible, in conformance with the established traffic level of service policies.

Policies:

The following policies have been established to implement Objective XIV-B:

- 309. Circulation improvements required to provide or attain the established traffic level of service standard at an intersection to which a development project contributes measurable traffic shall be completed within three years of issuance of the first building permit for said project or prior to occupancy of said project, whichever occurs first.
- 310. Every new development project shall pay its share of costs associated with the mitigation of project generated impacts, including regional traffic mitigation.
- 311. A traffic mitigation fee shall be established for circulation system improvements to the Master Plan of Highways within the community.

312. The city shall work with the adjacent jurisdictions to determine an acceptable impact fee for areawide improvements within the Growth Management Area in which the city participates.
313. All development contributing measurable traffic to intersections on the GMA Deficient Intersection List shall be assessed a mitigation fee, as determined by the jurisdictions within the GMA.
314. A Deficient Intersection Fund shall be established to make improvements to those intersections identified by the GMA as necessary to achieve the established traffic level of service.
315. New Measure M sales tax revenues shall not be used to replace private developer funding which has been committed for any project or normal subdivision obligations.

Objective XIV-C:

To ensure that new land use approvals and development are phased with commensurate roadway capacities.

Policies:

The following policies have been established to implement Objective XIV-C:

316. Development Phasing Plans shall be required for all discretionary land use entitlement and approvals and shall be approved by the Planning and Transportation Services Divisions prior to the issuance of building permits.
317. Development Phasing Plans shall include an overall buildout plan which can demonstrate the ability of the circulation system to support the proposed level of development.
318. The City shall monitor the implementation of the Development Phasing Plan for each project on an annual basis and shall prepare an annual cumulative report of all development approvals and the required traffic improvements necessary to support the approved levels of development.

Objective XIV-D:

To incorporate additional provisions of Measure M into the General Plan Growth Management Element to provide a comprehensive and complete statement of the city's growth management policies.

Policies:

The following policies have been established to implement Objective XIV-D:

319. The City of Costa Mesa shall participate in the Inter-Jurisdictional Planning Forums within its established Growth Management Area as adopted by the Regional Planning Advisory Council.
320. The city's seven-year capital improvement program shall be adopted and maintained in conformance with the provisions of Measure M for the purpose of maintaining the established level of service standard.
321. Recognizing the constraints of existing physical development conditions, the city shall strive to achieve a balance of land uses whereby residential, commercial, industrial and public land uses are proportionally balanced.
322. The city shall continue to promote traffic reduction strategies through the measures included in the adopted Transportation Demand Management Ordinance.

IMPLEMENTATION PROGRAMS

Adoption of the Transportation Management Element in 1988 and the 1990 General Plan in 1992 incorporated a number of implementation programs related to capital improvement programs, development phasing traffic impact fees and transportation demand strategies. Measure M has similar requirements. The following programs within the Growth Management Element format are designed to refine, expand and replace the existing transportation implementation programs in the General Plan.

The necessary programs to implement the Growth Management Element are as follows:

1. SEVEN-YEAR CAPITAL IMPROVEMENT PROGRAM

Program Description:

- 1) Develop and annually update a priority list of improvement projects with priorities based upon correcting identified hazards;
- 2) Improve/maintain peak period operation at the established level of service standard;
- 3) Improve efficiency of existing infrastructure utilization;
- 4) Intergovernmental cooperation.

Funding Sources: Department/Division budgets
Responsible Agency: Public Services Department
Implementation Schedule: Ongoing

2. TRANSPORTATION SYSTEMS MANAGEMENT ORDINANCE

Program Description:

Amend existing Transportation Systems Management Ordinance to comply with court ruling on the local Measure G growth management initiative and Measure M and Congestion Management Program requirements.

Funding Sources: Department/Division budgets
Responsible Agencies: Development and Public Services Departments and City Attorney.
Implementation Schedule: 1991-1992 FY

3. TRANSPORTATION DEMAND MANAGEMENT ORDINANCE

Program Description:

Continue implementation and monitoring of existing Transportation Demand Management Ordinance adopted in conformance with the first year eligibility requirements for the Congestion Management Program.

Funding Source: Department/Division budgets
Responsible Agencies: Planning and Transportation Services Divisions.
Implementation Schedule: Ongoing.

4. COMPREHENSIVE TRANSPORTATION SYSTEM IMPROVEMENT AND PHASING PROGRAM

Program Description:

Develop a program which addresses the cumulative impacts of development in a defined impact area within the community and identifies improvements to ensure that the level of service standard is maintained within the defined areas of the community. The program shall also address the funding, construction and maintenance of transportation system improvements to comply with the established level of service standard and policies.

<u>Funding Sources:</u>	Department/Division budgets
<u>Responsible Agencies:</u>	Public Services and Development Services Departments
<u>Implementation Schedule:</u>	1992-1993 FY

5. DEVELOPMENT MITIGATION FEE PROGRAM

Program Description:

Establish a citywide development mitigation fee program based upon the Comprehensive Transportation System Improvement and Phasing Plan. The program shall set forth the methodology for establishing the fee, set the amount of the fee, describe the benefit and impact areas within the community, list the specific public improvements to be financed, describe the relationship between the fee and the various types of development, and set forth time for fee payment. The program shall also be coordinated through the Inter-Jurisdictional Planning Forums in order to determine minimally acceptable impact fees within the Growth Management Area in which the city participates.

<u>Funding Source:</u>	Department/Division budgets
<u>Responsible Agencies:</u>	Development Services, Finance and Public Services Departments and the City Attorney.
<u>Implementation Schedule:</u>	1992-1993 FY

6. PERFORMANCE MONITORING PROGRAM

Program Description:

Develop a program to provide an annual evaluation of compliance with development phasing allocations and land use approvals. The program will also provide an annual evaluation of the maintenance of established transportation level of service standards. The program will also identify corrective measures to address any deficiencies which arise as a result of the monitoring program.

<u>Funding Source:</u>	Department/Division budgets
<u>Responsible Agencies:</u>	Development Services and Public Services Depts.
<u>Implementation Schedule:</u>	FY 1992-1993

7. INTER-JURISDICTIONAL PLANNING FORUMS

Program Description:

Participate in and provide staff support to Inter-Jurisdictional Planning Forums at the GMA level and cooperate in addressing cumulative traffic impacts and coordinating improvements in transportation facilities. The Local Transportation Authority will convene these forums at least once a quarter.

<u>Funding Source:</u>	Department/Division budgets
<u>Responsible Agencies:</u>	Development Services and Public Services Departments and a City Council representative.
<u>Implementation Schedule:</u>	Ongoing.

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CITY OF
COSTA MESA

GOALS,
OBJECTIVES,
AND POLICIES

GOALS, OBJECTIVES AND POLICIES

Provided in this section of the 1990 General Plan are the goals, objectives and policies of the City of Costa Mesa. The intent of the thirteen General Plan goals is to set forth the general desire or purpose for the City. Each goal is further defined by accompanying objectives that focus on a portion of the overall goal. Lastly, each objective is followed by several policies which describe how the City intends to implement the objective in conformance with the overall goal.

Within the goal sections that address housing issues (Goal VIII - Goal XIII), specific programs are also included following the policies.

Policy Interpretation

The policies of the 1990 General Plan address a wide range of issues, and it is possible that in the implementation of the General Plan, two or more policies may appear to conflict with one another. If this situation were to occur, the policy with the firm directive (e.g., provide, require, prohibit, etc.) shall take precedence over policies that are less binding (e.g., encourage, promote, consider, where feasible, if possible, to the extent practical, etc.).

GOAL I: ENVIRONMENTAL QUALITY AND RESOURCE CONSERVATION

It is the goal of the City of Costa Mesa to provide its citizens with a high quality environment through the development and conservation of resources, including land, water, minerals, wildlife, and vegetation; the protection of areas of unique natural beauty and historical, social, cultural, and scientific interest; the integration of natural features into the man-made environment; and the preservation of open space.

Objective I-A: Preserve the City's open space lands and provide additional community and neighborhood parkland in conjunction with future population increases to provide adequate recreational opportunities and relief from the pressures of urban development.

1. Until the results of the 1990 Federal census are available, provide a minimum of 4.5 acres of permanent public open space (consisting of 3 acres of neighborhood and community parks and 1.5 acres in school yards) for every 1000 residents.
2. Conduct a comprehensive parkland study after the results of the 1990 Federal census are available in order to adjust the ratio of neighborhood and community park acreage to the total population to reflect the census. Unless State law is modified, the amount of neighborhood and community parks shall not be reduced below three acres and shall not exceed five acres per 1000 residents.

3. Conduct a comprehensive parkland study to identify future park sites in the City and acquisition mechanisms to meet the needs of future population increases. The acquisition mechanisms can include lease or cooperative agreements with other public agencies regarding surplus land, dedication or easements in conjunction with planned commercial, industrial or mixed use development, acquisition of land by fee, development of City-owned surplus property as parkland, or other mechanisms.
4. Provide maximum visibility and accessibility for future public parks by locating such facilities adjacent to existing or planned public streets.
5. Encourage the acquisition of land for neighborhood or community parks for active recreational use.
6. To the extent legally possible, require other local, regional, State, or Federal agencies to maintain and adequate inventory of open space lands within Costa Mesa.
7. Review alternative means to acquire open space lands to reduce the fiscal impact of providing such facilities.
8. Encourage, through development rights transfers or other incentives, the development of private permanent open space, and recreation facilities to meet the needs of the City's residents.
9. Encourage, through open space easements, development rights transfers or acquisition, zoning regulations, or other incentives, the long-term maintenance of existing open space lands.
10. Require, through development standards and planned development review criteria, the integration of open space uses (plazas, courtyards, landscaped areas, etc.) into major commercial and industrial development or redevelopment projects.
11. Continue to require, through development standards, the integration of open space and recreational uses and facilities into all multiple-family residential projects.
12. Review the possibility of incorporating an Arts in Public Places program in City parks.
13. Strongly encourage improved maintenance of City and school district facilities used for recreation and organized sports activities. Strongly support recreation programs that benefit the youth of the community.
14. Retain all existing open space in Lions Park.

Objective I-B: Evaluate the preservation of the City's existing biotic resources in as ecologically viable and natural a condition as possible, and, where feasible, restore and integrate these resources into the urban environment.

15. Ensure that all future developments will be adequately reviewed with regard to possible adverse effects on plant and animal life and critical wildlife habitat and wetlands, and, where feasible and appropriate, incorporate sufficient mitigation measures into the project design to reduce such effects.
16. Require landscape plans for all public and private developments to consider the retention and/or enhancement of existing mature vegetation.

Objective I-C: Encourage the preservation and protection of the City's natural and man-made historic resources.

17. Require, as a part of the environmental review procedure, an evaluation of the significance of paleontological, archaeological, and historical resources and the impact of proposed development of those resources.
18. Require monitoring of grading operations by a qualified paleontologist or archaeologist when the site is reasonably suspected of containing such resources. If, as a result, evidence of resources is found, require the property to be made available for a reasonable period of time for salvage of known paleontological and archaeological resources by qualified experts, organizations, or educational institutions.
19. Require developments on land containing known archaeological resources to use reasonable care to locate structures, paving, landscaping, and fill dirt in such a way as to preserve these resources undamaged for future generations when it is the recommendation of a qualified archaeologist that said resources be preserved in situ.
20. Encourage and assist further research into the background of potentially historic buildings about which sufficient information is not yet known.
21. Consult with local organizations and individuals to designate sites, buildings, and structures of historical significance and determine by working with the Costa Mesa Historical Society which historical resources merit preservation. Consider designating a site for the preservation of significant historical buildings and structures.
22. Promote the preservation of significant historical resources and encourage other public agencies or private organizations to assist in the purchase and/or relocation of sites, buildings, and structures deemed to be of historical significance.

23. Create an overlay zone, or similar tool, to require approval of a Conditional Use Permit prior to demolition, grading, or construction on sites identified as having significant historical resources.
24. Encourage development of an interpretive center for paleontological, archaeological, and historical resources at Fairview Park. The center may contain resources found in the park area as well as resources found throughout the City.

Objective I-D: Work towards the protection and conservation of the City's existing and future water resources recognizing water as a limited resource requiring conservation.

25. Require, as a part of the environmental review procedure, an analysis of major development or redevelopment project impacts on local water supplies and water quality and an analysis of the impact on water capacity, water availability, and water costs.
26. Pursue the use of reclaimed wastewater for the irrigation of all appropriate open space facilities and require new developments and City projects, and encourage existing developments to tie into the reclaimed water system when recommended by the Orange County Water District or Mesa Consolidated Water District.
27. Require proposed development projects to incorporate all interior and exterior water conservation measures required by State law and State and local water agencies. Encourage the implementation of measures recommended by water agencies.
28. Amend the landscape standards to require the use of low flow irrigation systems and native California vegetation and/or other low water demand plants, with evaluation as to their drought resistance, in all proposed development projects.
29. Encourage Mesa Consolidated Water District to offer credits, rebates, or reduced water rates to users of "Green Acres" reclaimed wastewater.
30. Require, when possible, reuse of pumped water from long-term dewatering operations for landscape irrigation or for construction.
31. Cooperate with the Mesa Consolidated Water District and Santa Ana Heights Water Company to advise the citizens of Costa Mesa of the benefits which can be obtained from the practices of water conservation.
32. Encourage potential private sector uses of reclaimed wastewater in Costa Mesa to use such water for the irrigation of landscaped areas by publicizing the economic and environmental benefits of this action.

33. Direct developers to work with the local water agency when the water agency determines that a project impacts the local water supply system; the water agency may require fees or other financial assessments of developers to finance any required expansion of the water supply system to serve new projects.

Objective I-E: Conserve energy and resources in the development and operation of public and private buildings, facilities, and activities.

34. Establish guidelines for encouraging passive solar design, and require analyses of available energy conservation measures in excess of Title 24 requirements. This shall include considerations such as modified site and building design in conjunction with EIRs and Negative Declarations for all new buildings and subdivisions.
35. Consider effects of buildings over two stories or 30 feet in height on adjacent parcels to ensure minimum interference with solar access in the vicinity of all new developments.
36. Continue the program of replacing mercury vapor and other street lights with high-pressure sodium vapor.
37. Encourage publicity or educational programs to promote "energy consciousness" and disseminate information about conservation techniques.
38. Consider adoption of regulations to require all new heated swimming pools to be equipped with solar heating and encourage retrofitting of existing swimming pools with solar heaters.
39. Encourage active solar systems for either water and/or space heating in all residential, commercial and industrial building designs.
40. Encourage retrofitting of all existing residences with wall and ceiling insulation and water heater insulation.
41. Prohibit the use of land for solid waste disposal dump sites in Costa Mesa and work towards the prohibition of contiguous areas for dump sites where there is possible ground water contamination.
42. Prepare and adopt a Source Reduction and Recycling Element that is consistent with the goals of the California Integrated Waste Management Act of 1989.

Objective I-F: Work towards the orderly, balanced utilization and conservation of the City's coastal resources.

43. Coordinate the planning efforts of the City with those of the County of Orange, the City of Newport Beach, and other appropriate agencies to develop uniform and consistent policies regarding the future use and development in the Santa

Ana River lowlands extending from the Pacific Ocean to the Fairview Regional Park Site.

44. Preserve and enhance existing wetlands areas.
45. Develop the Canyon Park site as a low intensity, wilderness area combining hiking, picnicking, and educational uses in a restored natural environment.
46. Require the provision of adequate visitor serving on-site parking facilities that do not impact sensitive resources within the Coastal Zone.
47. Encourage the County of Orange to acquire the remaining 5-acre privately owned parcel adjacent to the Santa Ana River.
48. Require that all public recreation areas and facilities be available at the lowest feasible cost to allow all economic segments of the community to use and enjoy the recreational opportunities provided in the Coastal Zone.
49. Review existing public works facility planning efforts to ensure that adequate water, sewer, and circulation systems are available to serve uses in the Coastal Zone and to limit planned capacities to conform to the demands created by development which is consistent with the Coastal Act.
50. Coordinate the development of plans, policies, and design standards for projects within the Coastal Zone with appropriate local, regional, State, and Federal agencies.
51. Pursue adoption of a Local Coastal Plan.
52. Participate with the County of Orange to provide pedestrian and bike linkages between open space and recreation facilities in and adjacent to the coastal area to take advantage of coastal resources.
53. Encourage the preservation of views of coastal resources from City and County parkland and public streets within Costa Mesa.

Objective I-G: Regulate oil extraction activities within the City to attain a reasonable accommodation of the need to recover a precious resource with the need to protect other properties and uses from the detrimental impacts of such activities and to work towards the eventual termination of such activities within the community.

54. Limit present oil extraction activities to those properties currently in oil production.
55. Continue to allow oil extraction activities on those properties currently in oil production until such time as these activities are no longer economically or technically

feasible and are terminated by the oil producers, or existing land use entitlements expire, whichever occurs first.

56. Establish development standards and review criteria to minimize the impact of existing oil production activities on other land uses existing or proposed to be developed on properties containing oil wells.
57. To the extent permitted by law, prohibit the location of major oil transport pipelines through the City.
58. Take steps to minimize detrimental effects of the conversion of existing oil producing lands to other uses.
59. Prohibit new residential development on property containing active oil extraction activities. Permit new industrial and commercial development on such properties only if the impacts of the oil extraction activities can be mitigated to a level of insignificance.

Objective I-H: Encourage the provision of spatial, visual, and experiential opportunities for cultural enjoyment and participation including both the performing and visual arts.

60. Encourage the local arts community to maintain and expand activities within the Costa Mesa area.
61. Review alternative means to acquire art through a) encouraging developers to incorporate visual art in the architecture, landscape, and display of art work; b) encouraging donation of art work to the City; and c) encouraging the location of performing groups within the City.
62. Encourage the development of private, permanent art and cultural facilities to meet the City's cultural needs.
63. Encourage through development standards the integration of art into major commercial and industrial developments or redevelopment projects.

GOAL II: ENVIRONMENTAL PROTECTION AND PRESERVATION

It is the goal of the City of Costa Mesa to protect its citizens and property from injury, damage, or destruction from environmental hazards, including hydrologic, geologic, and climatic episodes, and to work towards the improved noise abatement and improved air and water quality.

Objective II-A: Work towards the mitigation or prevention of potential adverse consequences of natural disasters.

64. Consider geologic hazard constraints in the development of land use policies and public decisions relating to land development.

65. Enforce standards, review criteria, and other methods to ensure that structures on or adjacent to bluffs are set back sufficiently to preserve the natural contour and aesthetic value of the bluff line and to provide sufficient access for fire protection.
66. Require geologic surveys of all new development located on or adjacent to bluffs.
67. Permit in 100-year flood plains only those new uses which are floodproofed or which can sustain periodic flooding.
68. Require that new development within the 100-year flood plain elevate building pads or floodproof sufficiently to protect the buildings from a 100-year flood.
69. Cooperate with local, State, and Federal flood control agencies to reduce the potential for flood damage in the City of Costa Mesa.
70. Drainage plans shall be based on the current Master Plan of Drainage and designed based upon the current Orange County Hydrology Manual.
71. Design all noncritical structures to conform to the seismic design requirements contained in the Uniform Building Code to provide a minimum level of seismic hazard protection.
72. Require developers to conduct site-specific seismic design studies, including consideration of the structure use and occupancy, for all critical structures (schools, hospitals, high-rise structures over three stories, emergency medical and disaster centers, and important government facilities) to identify specific seismic design parameters in conformance with the Uniform Building Code necessary to preclude the collapse of the structure in the event of a major seismic episode.
73. Identify and publicize the extent of geologic and seismic hazards within Costa Mesa and advise affected residents and property owners of appropriate protection measures. Offer information regarding earthquake standards to reduce or eliminate structural damage.
74. Identify and publicize the location of all public structures which do not meet current seismic design criteria and which may pose public health hazards in the event of a major earthquake. To the extent feasible, so identify and publicize private structures.
75. Encourage, through technical assistance or development incentives, private property owners to take adequate steps to protect their property against seismic hazards.

76. Ensure that all vital or critical City facilities are operated and maintained in a manner to maximize their ability to remain operational in the event of a major seismic disaster.
77. Require all proposed development projects to be designed to minimize both the volume and velocity of surface runoff and permit no adverse downstream impacts due to increased runoff through the proper design of subsurface drains, appropriate grading, on-site retention basins, landscape programs, or other appropriate measures.
78. Publicize the extent of flood hazards within Costa Mesa and advise affected residents and property owners of appropriate protection measures. Develop an education program, such as the Flood Awareness Program, and emergency disaster plans for flooding.
79. Strongly encourage County, State, and Federal agencies to complete flood control improvements to the Santa Ana River and Greenville-Banning Channel to protect Costa Mesa residents and property located in the 100-year flood zone from a potential major disaster.

Objective II-B: Pursue the prevention of the significant deterioration of local and regional air and water quality.

80. Cooperate with and support regional, State, and Federal agencies to improve air quality throughout the South Coast Air Basin.
81. Participate in the environmental analysis review and adoption process of the Tier I Control Measures identified in the adopted South Coast Air Quality Management District's Air Quality Management Plan.
82. After analysis of each measure, implement, as appropriate or where required by law, the Tier I Control Measures in the Air Quality Management Plan as they are formally adopted by the South Coast Air Quality Management District.
83. Require, as a part of the environmental review procedure, an analysis of major development or redevelopment project impacts on local and regional air and water quality.
84. Establish land use policies (balanced uses, integration of compatible uses, and concentration of development along major arterials or in close proximity of major employment centers) which support ridesharing programs, reduce traffic congestion, and improve air quality.
85. Require compliance with regional, State, and Federal regulatory agencies to enforce water quality regulations and reduce surface water pollution.

86. Review existing street cleaning policies and equipment and evaluate all necessary modifications (use of vacuum street sweeping equipment, slower sweeping speeds, modified schedules, etc.) to reduce surface water pollution.
87. Develop and implement a Reasonable Available Control Measure Plan (including employee ridesharing, traffic signal synchronization, bicycle/pedestrian facilities, energy conservation street lighting, modified work schedules, preferential carpool parking, or other equivalent control measures) in conformance with the Air Quality Management Plan for the South Coast Air Basin.
88. Investigate alternative methods to improve all streets with curbs and gutters to facilitate removal of significant street pollutants throughout the community.
89. Discourage on-street parking during street sweeping hours.

Objective II-C: Control noise levels within the City for the protection of residential areas and other sensitive land uses from excessive and unhealthful noise.

90. Require, as a part of the environmental review process, that full consideration be given to the existing and projected noise environment.
91. Establish maximum acceptable exterior noise levels for residential areas of 65 CNEL.
92. Give full consideration to the existing and projected noise environment when considering alterations to the City's circulation system and Master Plan of Highways.
93. Encourage CalTrans to construct noise attenuation barriers along State freeways and highways adjoining residential and other noise sensitive areas.
94. Provide necessary equipment and training to enforce the Noise Ordinance using existing City Staff for initial field check of noise complaints.
95. Contract with private companies for enforcement of the Noise Ordinance in those cases where Staff and equipment demands exceed City resources.
96. Consider noise emission levels in the acquisition and use of new equipment and machinery purchased by the City.
97. Ensure that appropriate site design measures are incorporated into residential developments, when required by an acoustical study, to obtain appropriate exterior and interior noise levels. When necessary, require field testing at the time of project completion to demonstrate compliance.

98. Apply the standards contained in Title 24 of the California Administrative Code as applicable to the construction of all new dwelling units.
99. Require field testing of completed residential structures to ensure compliance with Title 24 of the California Administrative Code.
100. Minimize noise impacts upon residential and other noise sensitive land uses.
101. Discourage sensitive land uses from locating in the 65 CNEL noise contour of the John Wayne Airport. Should it be deemed by the City as appropriate and/or necessary for a sensitive land use to locate in the 65 CNEL noise contour, ensure that appropriate interior noise levels are met and that minimal outdoor activities are allowed.
102. Strongly encourage the governor to appoint a Costa Mesa resident to the Orange County Fair Board to better control noise-related impacts of uses and activities within the Fairgrounds.
103. In conjunction with Environmental Impact Reports, assess the potential noise impact associated with increased traffic on surrounding residential and sensitive land uses. When acceptable exterior and interior noise levels are projected to be exceeded, project related impacts shall be mitigated through construction of noise attenuation walls or other measures.
104. Strongly encourage the Orange County Fair Board and other appropriate individuals and/or decision-making bodies to take such action as will bring the Pacific Amphitheater in compliance with all Costa Mesa noise ordinances or noise levels permitted in the City.
105. While maintaining safety, support alternatives for the future of Orange County Airport which will reduce the noise impact of airport operations.

Objective II-D: Participate in the safe, efficient and responsible management of hazardous waste materials.

106. Enact appropriate ordinances that address the siting of hazardous waste facilities in the City that are consistent with the intent of the Orange County Hazardous Waste Management Plan; the siting criteria shall include standards and requirements that ensure the protection of the community and environment from potential negative impacts from hazardous waste facilities.
107. Participate with the County of Orange in the implementation of the Orange County Hazardous Waste Management Plan.

108. Ensure that appropriate in-depth environmental analyses are conducted for any proposed hazardous waste materials treatment, transfer, and/or disposal facility.
109. Prepare a Household Hazardous Waste Element in conformance with State law. Provide community education on the types and uses of household hazardous wastes and their proper disposal (including how to reduce the use of hazardous household materials, and where and how to dispose of hazardous household materials); and distribute information on local collection sites.
110. Continue to work with the County of Orange to identify and inventory all users of hazardous materials and all hazardous waste generators and prepare clean-up action plans for identified disposal sites.

GOAL III: DEVELOPMENT

It is the goal of the City of Costa Mesa to establish development policies which will create and maintain an aesthetically pleasing and functional environment and minimize impacts on existing physical and social resources.

Objective III-A: Encourage new development and redevelopment to improve and maintain the quality of the environment.

111. Use eminent domain in redevelopment project areas when necessary to effect lot combination and to ensure optimum size and configuration of parcels experiencing development pressures.
112. Continue to implement, review, and update the redevelopment plan for the adopted project area.
113. Prepare a specific plan to ensure that the portion of the Route 55 extension from 19th Street through the Redevelopment Area is compatible with the Redevelopment Area and to review development related issues on the remainder of the alignment.
114. In the event of damage or destruction, allow any legal conforming use in existence at the time of adoption of the 1990 General Plan in a nonconforming development to be rebuilt to its original building intensity, as long as any such rebuilding would not increase the development's nonconformity, and the damage or destruction was in no way brought about by intentional acts of any owner of such use.
115. Develop standards, policies, and other methods to encourage the grouping of individual parcels to eliminate obsolete subdivision patterns and to provide improved living environments while retaining the single-family zoning or single-family character of such areas in the City.

116. Strictly enforce development standards and zoning ordinances without permitting an increased unit when a proposed project does not meet the square foot requirements of the zone so as to prohibit a "rounding up", except for existing Medium Density Residential lots less than 7,260 sq.ft., but not less than 6,000 sq.ft. where density calculation fractions equal to or greater than 1.65 may be rounded to two units.
117. Allow creation of parcels without street frontage if sufficient easements are provided for planned developments or condominium developments.
118. Develop review criteria to discourage retention of blighted or obsolete structures on sites where new development is planned.
119. Identify deficiencies and upgrade existing public service facilities (streets, alleys, utilities).
120. Develop policies and standards to provide a balanced mix of residential uses within the Redevelopment Area including the provisions of single-family homes and R1 within the Redevelopment Area.
121. Encourage the inclusion of art and aesthetically pleasing architecture into new development and redevelopment that will have the effect of perpetuating the image of the City of the Arts; this should also be compatible with surrounding architecture.
122. Reevaluate current parking standards for residential developments.
123. Encourage increased private market investment in declining or deteriorating neighborhoods.
124. Improve east-west circulation through the Redevelopment Area and avoid the closure of east-west connectors.

Objective III-B: Establish policies, standards, and procedures to improve and maintain the visual image of the City.

125. Improve all gateways to the City with landscaped medians and parkways with entrance signs to provide a positive introduction to Costa Mesa.
126. Encourage homeowners' associations to maintain existing housing tract entrance signs in an attractive manner and encourage the placement of such signs at the entrance of major developments which do not have such identification.
127. Promote linkages between separate neighborhoods through bike trails, pedestrian paths, common medians or parkway landscaping in connecting streets, and other physical improvements as necessary.
128. Develop design standards and guidelines for the placement of street furniture and public street graphics within and adjacent to public rights-of-way.

129. Increase the visual quality of Costa Mesa's streetscapes through the use of linear open space facilities such as landscaped medians, parkways, and building setbacks.
130. Require all new utility connections to be made underground or, where not feasible, to provide for future undergrounding.
131. Underground utility lines in specified Underground Utility Districts.
132. Pursue maximum use of utility company funds and resources in undergrounding existing overhead lines.
133. Develop design standards and guidelines for the placement of art in public places.

GOAL IV: SOCIO-ECONOMIC CONSIDERATIONS

It is the goal of the City of Costa Mesa to respond to the needs of its citizens for housing, public services, community facilities, and safety of persons and property, to the extent possible within budgetary constraints, and when deemed appropriate for local governmental involvement.

Objective IV-A: Ensure availability of adequate community facilities and provision of the highest level of public services possible, taking into consideration budgetary constraints and effects on the surrounding area.

134. Continue to require smoke detectors to be installed in all existing residential units upon change of ownership and encourage the installation of smoke detectors in all units.
135. Continue to require smoke detectors to be installed in all existing residential units upon addition or alteration in excess of \$1,000 valuation or upon addition of one or more sleeping rooms.
136. Encourage the installation of automatic fire sprinkler systems in all new and existing developments, including new single-family and multi-family dwelling units.
137. Continue to evaluate and implement alternative administrative and management techniques to increase the efficiency and effectiveness of all City programs and services.
138. Cooperate with adjacent cities and other governmental agencies to identify common or overlapping services which can be combined or integrated to reduce costs and maintain or increase the level of service provided to the public.
139. Continue to investigate the use of private firms to deliver services currently performed by the City and contract those services which can be delivered at lower costs without a reduction in the level or quality of service currently provided.

140. Identify and evaluate the cost effectiveness and public benefits of all new programs, services, and facilities prior to approval or implementation.
141. Monitor and evaluate current trends in the local and regional economy which impact local sources of revenues or demands for public expenditures.
142. Encourage and solicit public input in the review and adoption of the annual budget.
143. Ensure adequate notice and time for public review and adoption of the annual budget.
144. Review the procedures for noticing public hearings.
145. Identify and evaluate current administrative and enforcement capabilities before the enactment or imposition of new regulations, to insure that such responsibilities can be effectively and efficiently administered without undue costs to the public.
146. Pursue annexation of certain areas within the City's Sphere of Influence to control development or uses which may be detrimental to the City.
147. Continue to conduct productivity studies to increase the efficiency of the various City departments.
148. Require that special benefit services, programs, or facilities be supported by the users in the form of specified fees or assessments.
149. Make maximum use of citizen committees in studying major areas of policy and/or development commitments.
150. Continue to assess needs to determine the type and level of social services required by Costa Mesa residents, to inventory existing programs and services, and to identify service gaps, overlap, and duplication.
151. Ensure adequate emergency preparedness through updating of the Emergency Services and Disaster Plan, public education, and appropriate staffing.
152. Strongly encourage protection and preservation of existing but underutilized school sites for future recreational, social or educational uses.
153. Encourage development of quality childcare services in the City.
154. Continue to support programs addressing the established needs of senior citizens.

155. Encourage and foster the maintenance and development of Cultural Arts programs and organizations in the community, thereby giving all citizens, regardless of age or income, accessibility to the arts in various forms including dance, theater, music and the visual arts.
156. Set appropriate goals for average nonemergency and emergency response times for police and fire as part of their annual department program budgets. Review the department's ability to meet the stated goals on an annual basis and implement corrective action as appropriate.
157. Develop appropriate methods to determine the cumulative impacts of new development on the Police and Fire Departments' ability to provide service.
158. Prepare and adopt a development impact fee program or similar financing tool to fund additional fire and police personnel, facilities, and equipment as required to meet the demands of additional growth in the City.
159. Require appropriate site and environmental analysis for future fire and police station site locations or for the relocation or closure of existing fire and police facilities.

GOAL V: TRANSPORTATION

It is the goal of the City of Costa Mesa to provide for a balanced, uncongested, safe, and energy-efficient transportation system, incorporating all feasible modes of transportation.

160. Require discussion of transit service needs and site design amenities for transit ridership in EIRs for major projects.
161. Require discussion of transportation system management (TSM) and transportation demand management (TDM) measures in all EIRs prepared for major projects.
162. Incorporate bicycle facilities (circulation and storage) into the design and development of all new commercial and industrial projects and public facilities.
163. Require dedication of right-of-way in an equitable manner for completion of adopted bikeway system as condition of development of adjacent properties.
164. Include bicycle lanes on all new bridges along Master Plan of Bikeway designated arterials within or adjacent to the City. In cases where bridges are not located within the City, the City should exert its influence on responsible agencies to include such bicycle lanes. If provision of bicycle lanes is not feasible, measures should be taken to prohibit bicycle riding on bridge walkways.

165. Adopt the State Department of Transportation standards for bikeways with the modifications recommended in the City's 1989 Bikeway Study.
166. Include safe bike trails in road widening projects; provide safe bike trails to schools; provide and expand off-street bike and jogging trails throughout the City where possible.
167. Continue to assign a high priority to energy efficiency in the selection of new City vehicles and equipment, and place particular emphasis on life-cycle cost analysis.
168. Investigate all available operational measures, including the use of one-way streets, to improve traffic circulation and minimize delay and congestion on arterials.
169. Require dedication of right-of-way, in an equitable manner, for development that increases the intensity of land use.
170. Implement citywide and/or areawide transportation system improvement programs on new development and fee programs for new development.
171. Require developers to construct on-site transit facilities or bus bays and/or bus pads consistent with the OCTA Design Guidelines for Bus Facilities on adjacent streets when appropriate.
172. Encourage Costa Mesa businesses to provide employee information to the Orange County Transportation Authority to assist in planning for public transit services.
173. Encourage Costa Mesa businesses to provide their employees with information as to the Orange County Transportation Authority facilities and services and information as to the Master Plan of Bikeways and bicycle facilities.
174. Encourage the development of Park-and-Ride facilities and additional Park-and-Ride routes to serve Costa Mesa through the Orange County Transportation Authority and other resources.
175. Require annual monitoring of employer TDM (transportation demand management) programs which include ridesharing by the Planning Division and annual review of the effectiveness of such programs by the Planning Commission and City Council.
176. Prepare annual report on implementation and effectiveness of the rideshare program for City employees.
177. Encourage the integration of compatible land uses and housing into major development projects to reduce vehicle use.
178. Encourage land uses permitted by the General Plan which generate high traffic volumes to be located near major

transportation corridors and public transit facilities to minimize vehicle use, congestion, and delay.

179. Coordinate the design and improvement of pedestrian and bicycle ways with major residential, shopping, and employment centers, parks, schools, other public facilities, public transportation facilities, and bicycle networks in adjacent cities.
180. Pursue acquisition of right-of-way for completion of adopted bikeway system through all available funding mechanisms.
181. Construct bicycle lanes and trails shown on the adopted bikeway plan in areas where sufficient right-of-way exists.
182. Provide sidewalks throughout the City.
183. Provide curb cuts for handicapped access at intersections and other appropriate locations citywide.
184. Adopt a uniform street-naming system to reduce or eliminate the number of continuous streets having more than one name.
185. Adopt a fuel conservation plan to reduce consumption by City vehicles.
186. Attempt to maintain or improve mobility within the City to achieve a standard level of service not worse than Level of Service "D" at all intersections under the sole control of the City with the exception of the following intersection for which Level of Service "D" may not be obtained:
 - Harbor and Gisler
187. Cooperate with the State Department of Transportation and adjacent jurisdictions to maintain or improve mobility within the City to achieve a standard level of service no worse than Level of Service "D" at all intersections under State or joint control with the exception of the following intersection for which Level of Service "D" may not be obtained.
 - Bristol and Sunflower
- 187A. While the intersections of 1) Harbor and Gisler and 2) Bristol and Sunflower may exceed LOS "D", the City shall work to ensure that the future ICUs do not exceed those identified in the General Plan.
188. Place priority on improving parallel streets and intersections, completing the Master Plan of Bikeways, and improving transit opportunities or reducing densities in the areas surrounding identified deficient intersections.
189. Reduce or eliminate intrusion of commuter through traffic on local streets in residential neighborhoods.

190. Prioritize intersection improvements which improve through traffic flow on major, primary, and secondary arterials, and reduce impacts on local neighborhood streets with due consideration to pedestrian safety.
191. Adopt by City Council resolution, a list of comprehensive trip generation rates to be used in traffic analyses of specific project proposals.
192. Maintain balance between land use and circulation systems by phasing new development to levels which can be accommodated by roadways existing or planned to exist at the time of completion of each phase of the project.
193. Continually upgrade traffic controller equipment to optimize signal efficiency.
194. Work closely with the State of California and other government agencies to control traffic-related impacts of uses on State- or other agency-owned land (i.e., Fairgrounds, Swap Meet, Amphitheater, Orange Coast College, etc.).
195. Council shall review the cooperative study to delete the Gisler Avenue and 19th Street bridges, and downgrading East 19th Street every 60 days or more often if needed. Upon completion of the cooperative study, the City shall process a General Plan Amendment to delete the bridges and the widening of East 19th Street from the City's Master Plan of Highways. All future development applications submitted to the City shall be reviewed in such a way that the 19th Street and Gisler Avenue bridges, and the widening of East 19th Street, will not be included as mitigation measures.
196. Initiate studies to determine any necessary land use amendments which would occur upon bridge deletion.
197. Initiate studies to consider downgrading Baker Street between Fairview Road and Harbor Boulevard, Del Mar Avenue, 22nd Street and Santa Isabel Avenue.
198. Minimize circulation improvements that will necessitate the taking of private property on existing developed properties.
199. Encourage Orange County to downgrade Mesa Verde Drive, Baker west of Harbor, and Gisler to a designation less than a commuter highway in the Master Plan of Arterial Highways.
200. To help buffer residential neighborhoods, provide drought-resistant landscaped medians and green belts along major roadways, arterials, highways and freeways adjacent to residential uses in the City.
201. Pursue with the County of Orange and all other affected agencies an east-west crossing of the Santa Ana River north of the I-405.

GOAL VI: TRANSPORTATION MANAGEMENT

It is the goal of the City of Costa Mesa to provide for standard service levels at signalized intersections by constructing capacity improvements for all various modes of circulation, adopting land use intensities commensurate with planned circulation improvements and implementing traffic demand reduction programs, thereby creating a more energy efficient transportation system.

Objective VI-A: To provide standard service levels by constructing and/or enhancing capacity of the master planned circulation system of freeways and arterial highways.

202. Coordinate with CalTrans and adjacent cities to construct access and mainline improvements along I-405, both in the City of Costa Mesa and in adjacent cities.
203. Coordinate with CalTrans, Orange County Transportation Authority, John Wayne Airport, the County of Orange, and the Transportation Corridors Agency to complete and improve the interchanges of Route 73 (the San Joaquin Hills Toll Road) with Route 55 (the Costa Mesa Freeway), and Route I-405 (the San Diego Freeway).
204. Coordinate with CalTrans to complete extension of Route 55 (the Costa Mesa Freeway) from 19th Street to the southern City boundary, incorporating a transition back into Newport Boulevard north of 15th Street/Industrial Way.
205. Coordinate with CalTrans to implement a freeway congestion incident detection and management program. This program may involve the restriction of heavy truck traffic to nonpeak periods.
206. Consider the feasibility of restricting heavy truck traffic to nonpeak periods on City streets.
207. Coordinate with the Orange County Transportation Authority and with adjacent jurisdictions to improve signal timing and coordination along major arterials.
208. Coordinate concept design, final engineering, and construct improvements to provide peak hour intersection operation not worse than Level of Service "D" at intersections under the sole control of the City except at the following intersection:
 - Harbor and Gisler
209. Pursue agreements with CalTrans to interconnect off-ramp signals with the City's master signalized intersection system.

210. Continue to work with CalTrans to synchronize and coordinate traffic signals on arterials at intersections controlled by CalTrans.
211. Develop a methodology for forecasting trip generation for mixed-use developments.
212. Continue to evaluate and pursue design and operational improvements (medians, driveway closures, signal synchronization or phasing, parking or turn restrictions, etc.) to improve the efficiency of intersections to more closely approximate theoretical carrying capacities.

Objective VI-B: To promote the use of nonsingle-occupant vehicular modes of transportation in and through the City.

213. Coordinate with OCTA to construct the planned transitway along Route 55 and I-405.
214. Coordinate with OCTA to construct bus turnouts at appropriate locations with attractive shelters designed for safe and comfortable use.
215. Coordinate with OCTA for ridematching services for major employers and/or activity centers, with an emphasis placed on the development for origin parking programs.
216. Coordinate with major employers to gain support for an implementation of transportation management rideshare programs. Program components may include flex-time, transit subsidies, and improved communications.
217. Identify existing and proposed fixed guideway transit lines and facilities in and around major new developments and encourage participation in the construction of such facilities or the inclusion of such facilities into new project designs.

Objective VI-C: To invest capital via a rationally phased allocation process for implementing transportation projects and programs.

218. Complete and annually maintain a needs assessment for traffic service levels and traffic safety.
219. Develop and annually update a priority list of improvement projects, with priorities based on 1) correcting identified hazards; 2) improving/maintaining peak hour operation to standard LOS; 3) improving efficiency of existing infrastructure utilization; and 4) intergovernmental coordination.

Objective VI-D: To promote intergovernmental coordination on transportation projects and programs.

220. Continue to participate in countywide and/or local inter-governmental transportation planning and growth management efforts.
221. Prepare and adopt a Growth Management Element that is consistent with the requirements of the County of Orange Revised Traffic and Growth Management Ordinance.
222. Continue to participate in the countywide Congestion Management Program to maintain City eligibility for gas tax revenues authorized by State Congestion Management Program legislation.
223. Prepare and adopt a City Congestion Management Program that is consistent with the countywide and State Congestion Management Program legislation.

GOAL VII: LAND USE

It is the goal of the City of Costa Mesa to provide its citizens with a balanced community of residential, commercial, industrial, recreational, and institutional uses to satisfy the needs of the social and economic segments of the population and to retain the residential character of the City; to meet the competing demands for alternative developments within each land use classification within reasonable land use intensity limits; and, to ensure the long term viability and productivity of the community's natural and man-made environments.

Objective VII-A: Establish and maintain a balance of land uses throughout the community to preserve the residential character of the City at a level no greater than can be supported by the infrastructure.

224. Provide for the development of a mix and balance of housing opportunities, commercial goods and services, and employment opportunities in consideration of the needs of the business and residential segments of the community.
225. Consider the effects of new employment, particularly in relation to housing impacts, when new commercial or industrial development is proposed.
226. Locate high intensity developments or high traffic generating uses away from low density residential in order to buffer the more sensitive land uses from the potentially adverse impacts of the more intense development or uses.
227. Strongly encourage the development of low density residential uses where feasible to improve the balance between rental and ownership housing opportunities.
228. Strongly encourage the development of owner-occupied housing.

229. Provide a balance of housing and employment opportunities within planned development areas to the extent feasible.
230. Pursue means to increase the stock of detached single-family housing by development of small-lot subdivision standards to be applied in a Medium Density Residential classification.
231. Aggressively pursue methods to discourage the development of multiple units on long, narrow, single parcels. Possible methods could include a lot combination zoning incentive or the creation of new lower density zoning to be applied to lots with less than a certain minimum frontage.

Objective VII-B: Ensure the long term productivity and viability of the community's economic base.

232. Create an environment where business can succeed while being in harmony with other City goals.
233. Provide levels of public improvements and services necessary to support the existing level of business activity, and allow for the expansion of business opportunities in the future at a level no greater than can be supported by the infrastructure.
234. Permit adequate quantities and locations of commercial land to serve residential neighborhoods.
235. Adopt development standards to encourage developments to utilize common parking areas and driveways to reduce the number of ingresses and egresses to major arterials.

Objective VII-C: Promote land use patterns and development which contribute to community and neighborhood identity.

236. Permit the construction of buildings over two stories or 30 feet only when it can be shown that the construction of such structures will not adversely impact surrounding developments and deprive existing land uses of adequate light, air, privacy, and solar access.
237. Establish a height limit of four stories above grade south of the I-405 Freeway, except for special purpose housing, such as elderly, affordable, or student housing.
238. Prohibit construction of buildings which would present a hazard to air navigation as determined by the FAA or independent studies by qualified private consultants that have been certified by the FAA as true and correct.
239. Encourage the use of common design elements in signs for commercial and industrial centers through the development of planned sign programs to improve center identity by publicizing the benefits of such programs to developers and local business operators.

240. Require building setbacks, structure orientation, and the placement of windows to consider the privacy of adjacent residential structures within the same project or adjacent existing residential structures.
241. Prior to the installation of traffic amenities or the closure of through streets in existing neighborhoods and districts, prepare feasibility studies to determine the costs, constraints, environmental impacts, and public receptiveness and consider alternative measures such as landscaped pockets in parking lanes.
243. Develop incentives for combination, or disincentives for development without lot combination. Consider policies such as zoning designations which fall between zones or through development standards which tie density to lot width as well as area.
244. Encourage the use of entrance patios, courtyards, plazas, arcades, porches, and covered walks to integrate adjacent development into the public streetscape.
245. Develop design standards and guidelines for the placement of street furniture elements within and adjacent to public rights-of-way.
246. Consolidate compatible street furniture elements (benches, bus shelters, newspaper racks, trash receptacles, kiosks, etc.) whenever possible.
247. Develop design standards and guidelines for the placement of public street graphics, street signs, locational and directional signs, traffic signs, etc., within and adjacent to public rights-of-way.
248. Consolidate street graphics and individual signs into single support structures where appropriate and compatible with the purpose and function of such informational, directional, and traffic control graphics.
249. Develop compatible landscape palettes which can be used along major arterials to provide a harmonious and unified parkway treatment with full consideration to the maintenance, water, and energy requirements.
250. Provide assistance to neighborhoods with special problems such as walls for sound attenuation, development of landscaped greenbelts, etc.

Objective VII-D: Ensure consideration of utility system capacities in land use planning and development processes.

251. Include an evaluation of impacts on utility systems and infrastructure in EIRs for all major General Plan amendment, rezone, and development applications.
252. Phase or restrict future development of the City to that which can be accommodated by infrastructure, existing or planned to exist, at the time of completion of each phase of a multi-phased project.
253. Require developers to pay appropriate impact fees to the Costa Mesa Sanitary District and Orange County Sanitation Districts to fund the cost of any necessary improvements to the sewage collection and treatment system.
254. Require developers, when necessary, to coordinate with the Costa Mesa Sanitary District and the Orange County Sanitation Districts to determine flow reduction techniques to be incorporated into their project designs.

Objective VII-E: Ensure correlation between buildout of the General Plan Land Use Map and the Master Plan of Highways.

255. Building densities/intensities for proposed new development projects (based on floor area ratio standards in the General Plan) shall not exceed the trip budget for such uses.
256. Allow the application of transportation management rideshare programs, integration of complementary land uses, and other methods to reduce project related average daily and peak hour vehicle trips in order to achieve consistency with the allocated trip budget.
257. Require a Conditional Use Permit that is reviewed annually for the approval of a transportation management program or similar method to reduce project related trips.
258. Develop implementing procedures and/or an ordinance that ensures that future change of land uses will not cause the approved maximum building intensity for a project and/or parcel to be exceeded.

GOAL VIII: PRESERVATION AND ENHANCEMENT

It is the goal of the City of Costa Mesa to initiate all reasonable efforts to preserve the availability of existing housing opportunities and to conserve as well as enhance the quality of existing dwelling units and residential neighborhoods to ensure full utilization of the City's existing housing resources for as long into the future as is physically and economically feasible.

Objective VIII-A: Establish policies, standards, and procedures to minimize blighting influences and maintain the integrity of stable neighborhoods.

259. Develop standards and/or guidelines for new development with emphasis on site (including minimum site security lighting) and building design to minimize vulnerability to criminal activity.
260. Protect existing stabilized residential neighborhoods, included but not limited to mobile home parks and manufactured housing parks, from the encroachment of incompatible or potentially disruptive land uses and/or activities.
261. Actively enforce existing regulations regarding derelict or abandoned vehicles, outdoor storage, and substandard or illegal buildings and establish regulations to abate weed-filled yards when any of the above are deemed to constitute a health, safety or fire hazard.
262. Establish code enforcement as a high priority and provide adequate funding and staffing to support code enforcement programs.
263. Provide incentives (loans, grants) from the Redevelopment Agency or the City to homeowners in existing owner-occupied residences within the Redevelopment Area to use for the rehabilitation of their property.
264. Encourage and support efforts of local homeowner's associations to improve the visual appearance of all residential neighborhoods.
265. Install and upgrade public service facilities (streets, alleys, and utilities) to encourage increased private market investment in declining or deteriorating neighborhoods.
266. Continue existing rehabilitation loan and grant programs for low- and moderate-income homeowners and rental property landlords to encourage full utilization of the City's existing housing stock as long as HCDA funds are available.
267. Encourage the replacement of existing substandard or deteriorated dwelling units which cannot be economically or physically rehabilitated consistent with the then existing zoning code and General Plan.
268. Encourage the private sector to take a role in the assistance to low-income households to rehabilitate substandard or deteriorated units.
269. In the development of public projects, require an analysis of potential displacement of existing residences with an emphasis on minimizing displacement.

270. Encourage the development of housing which fulfills specialized housing needs.
271. Investigate a rehabilitation loan and/or grant program for owner occupied dwelling units for households which exceed CDBG income guidelines.

The following programs have been adopted to realize the attainment of Goal VIII and to implement the above policies.

VIII-A ZONING ENFORCEMENT

PROGRAM/ACTION DESCRIPTION: Enforcement of existing Municipal Code provisions relating to the proper use and development of properties throughout the community. Includes response to and investigation of alleged zoning violations such as illegal uses, derelict or abandoned vehicles, outdoor storage, and illegal structures in residential districts. Program also includes an ongoing component to evaluate the effectiveness of existing regulations to resolve critical issues and to study the need for new regulations to assure proper protection of existing housing resources.

OBJECTIVES/ANTICIPATED RESULTS: Improve quality and prevent deterioration of existing residential neighborhoods.

FUNDING SOURCES: Department/Division budgets provided by the General Fund.

RESPONSIBLE DEPARTMENTS/AGENCIES: Development Services Department and City Attorney.

IMPLEMENTATION SCHEDULE: Ongoing - continuation of an existing program.

VIII-B DEVELOPMENT REVIEW

PROGRAM/ACTION DESCRIPTION: Review of development proposals within or adjacent to existing residential neighborhoods for potential conflicts (intrusive, disruptive or incompatible land uses and/or activities). Review will be initiated at the point in the processing of the proposal (general plan amendment, rezone, conditional use permit, variance, etc.) when sufficient detail to determine project compatibility is available.

OBJECTIVES/ANTICIPATED RESULTS: Protect residential uses from intrusive, incompatible or potentially disruptive land uses and/or activities.

FUNDING SOURCES: Department/Division budgets provided by the General Fund.

RESPONSIBLE DEPARTMENTS/AGENCIES: Development Services Department.

IMPLEMENTATION SCHEDULE: Ongoing - continuation of an existing program.

VIII-C PUBLIC NUISANCE ABATEMENT

PROGRAM/ACTION DESCRIPTION: Abatement of existing uses, activities, buildings, or structures which pose a threat to the public health, safety, and welfare.

OBJECTIVES/ANTICIPATED RESULTS: Protect existing residential uses from disruptive, incompatible, or illegal uses and/or buildings. Improve 88 rental units on Shalimar Drive.

FUNDING SOURCES: Department/Division budgets provided by the General Fund, CDBG for improvements on Shalimar Drive.

RESPONSIBLE DEPARTMENTS/AGENCIES: Development Services Department, Community Development Division, City Attorney, Planning Commission, and City Council. Other department/divisions or agencies may be utilized to evaluate, document, or investigate alleged nuisances on a case-by-case basis.

IMPLEMENTATION SCHEDULE: Ongoing - continuation of an existing program. 1987-91 Shalimar Task Force.

VIII-D HOUSING REHABILITATION

PROGRAM/ACTION DESCRIPTION: Provide technical and financial assistance to all eligible homeowners and residential property owners to rehabilitate existing dwelling units through low interest loans, or potential loans or grants to owner-occupants of residential property for households which exceed CDBG income guidelines to rehabilitate their existing residential dwelling units.

OBJECTIVES/ANTICIPATED RESULTS: To maintain and preserve the City's housing stock and improve energy efficiency of qualified homes, and to maintain and preserve the City's single-family and condominium housing stock. Objectives for 1988-94 Fiscal Year: rehabilitation of 200 owner-occupied structures; rehabilitation of 60 rental units; and assistance with property improvement of 80 owner-occupied structures and 176 rental units.

FUNDING SOURCES: Community Development Block Grant. Private bank loan commitment (leverage). City as to those owner occupied units for households which exceed CDBG income guidelines in areas outside the Redevelopment Area and to the City or the Redevelopment Agency as to those units located within the Redevelopment Area, provided a new program is adopted.

RESPONSIBLE DEPARTMENTS/AGENCIES: City Manager/Housing and Community Services Division, Development Services Department and Redevelopment Agency.

IMPLEMENTATION SCHEDULE: Ongoing - continuation of an existing program; possible creation of the program described in Policy 257 and 265 and funding of the program in 1991-1992.

VIII-E MOBILE HOME PARK PRESERVATION

PROGRAM/ACTION DESCRIPTION: Provide financial assistance to eligible owner-occupants to rehabilitate existing dwelling units through deferred payment low-interest loans. Amend existing ordinances to require that a Conditional Use Permit be obtained as a prerequisite to the conversion of an existing mobile home park or manufactured housing park. The conditions to the Conditional Use Permit should include a provision for reasonable relocation assistance when the park is converted to a commercial or industrial use.

OBJECTIVES/ANTICIPATED RESULTS: To maintain and preserve the City's mobile home housing stock.

Summary of Quantified Objectives

<u>Project Title</u>	<u>89-90</u>	<u>90-91</u>	<u>91-92</u>	<u>92-93</u>	<u>93-94</u>	<u>Total</u>
Mobile home Rehabilitation	15	15	15	15	15	75

FUNDING SOURCES: Community Development Block Grant.

RESPONSIBLE DEPARTMENTS/AGENCIES: City Manager/Housing and Community Services Division

IMPLEMENTATION SCHEDULE: Ongoing.

GOAL IX PRESERVING AFFORDABILITY

It is the goal of the City of Costa Mesa to provide its citizens with reasonably priced housing opportunities within the financial capacity of all social and economic segments of the community. Further, the City of Costa Mesa shall make every effort to reduce the costs of home ownership or rent for all existing and future dwelling units constructed within its jurisdiction.

272. Allow and encourage developers to "piggyback" or file concurrent applications (i.e., rezones, tentative tract maps, conditional use permits, variance requests, etc.) if multiple approvals are required, and if consistent with applicable processing requirements.
273. Maintain consistency between all applicable general and specific plans, zoning ordinances, and other development guidelines relating to the development, maintenance, and conversion of new or existing dwelling units in order to reduce unnecessary overlapping regulations to expedite the processing of residential developments.
274. Provide incentives (i.e., density bonus units, fee reductions, exemption from development or processing fees, fast-tracking, etc.) to developers of residential projects who agree to provide the specified percentage of units mandated by State

law at a cost affordable to very low- and/or low-income households. Density bonus units may be provided when the bonus units do not allow the project's resulting density to exceed the General Plan designation density limit or for affordable senior citizen projects.

275. Consider financial incentives in lieu of density bonus units if the proposed affordable, nonsenior density exceeds that allowed by the General Plan designation of the property. Require the review of such projects by Planning Commission and City Council.
276. Provide opportunities and develop incentives to encourage developers to employ innovative or alternative construction methods to reduce housing costs and increase housing supply.
277. Exert City influence (to the maximum extent possible) to facilitate the development of new residential units where feasible.
278. Continue to allocate a majority of the City's Community Development Block Grant funds to direct housing-related programs.
279. Support the continuation and expansion of federal housing assistance programs for very low-, low- and moderate-income households.
280. Continue membership in the Orange County Housing Authority to provide housing assistance to low- and moderate-income households.
281. Recognizing the effect of supply and demand on prices for housing and other commodities, encourage development of residential uses on vacant parcels where appropriate.

The following programs have been adopted to realize the attainment of Goal IX and to implement the above policies.

IX-A INCENTIVE FOR AFFORDABLE HOUSING

PROGRAM/ACTION DESCRIPTION: Provide incentives (i.e., density bonuses, fee reduction, etc.) to developers who agree to construct 20 percent low-income units, 10 percent very low-income units, or 50 percent senior citizen affordable units.

OBJECTIVES/ANTICIPATED RESULTS: Program objectives assume increased production of affordable units to be constructed through 1994.

Summary of Quantified Objectives

<u>Project Title</u>	<u>89-90</u>	<u>90-91</u>	<u>91-92</u>	<u>92-93</u>	<u>93-94</u>	<u>Total</u>
Affordable Units	70	60	60	60	60	310

FUNDING SOURCES: Department/Division budgets.

RESPONSIBLE DEPARTMENTS/AGENCIES: Development Services Department.

IMPLEMENTATION SCHEDULE: Ongoing - continuation of an existing program. Ordinance adoption 1991.

IX-B MANUFACTURED HOUSING

PROGRAM/ACTION DESCRIPTION: Study current trends to amend the land use ordinance and zoning districts to include incentives to encourage local developers to employ innovative or alternative construction methods, including manufactured housing.

OBJECTIVES/ANTICIPATED RESULTS: Reduce housing costs and construction time through the use of manufactured housing.

FUNDING SOURCES: Department/Division budgets provided by the General Fund.

RESPONSIBLE DEPARTMENTS/AGENCIES: Development Services Department.

IMPLEMENTATION SCHEDULE: Complete study and prepare ordinance in 1991.

IX-C GRANNY FLATS

PROGRAM/ACTION DESCRIPTION: Provide housing for elderly per California Government Code Section 65852.1.

OBJECTIVES/ANTICIPATED RESULTS: Allow greater utilization of residential land to increase supply of housing for persons age 62 or older. Provide five new units per year.

FUNDING SOURCES: Department/Division budgets provided by the General Fund.

RESPONSIBLE DEPARTMENTS/AGENCIES: Development Services Department.

IMPLEMENTATION SCHEDULE: Ongoing - continuation of an existing program. Ordinance adoption 1991.

IX-D FEDERAL/STATE HOUSING PROGRAMS

PROGRAM/ACTION DESCRIPTION: Provide technical assistance to developers, nonprofit organizations, or other qualified private sector interests in the application and development of projects for Federal and State housing programs/grants. A specific example of previous efforts on this regard relate to a proposal for Section 202 housing sponsored by a local church, St. John the Divine Episcopal Church. 36 units were included in this project.

OBJECTIVES/ANTICIPATED RESULTS: Encourage private sector to utilize available Federal and State housing programs to increase supply of very low-, low- and moderate-income housing opportunities.

FUNDING SOURCES: Department/Division budgets provided by the General Fund, Community Development Block Grant.

RESPONSIBLE DEPARTMENTS/AGENCIES: Development Services Department and City Manager/Housing and Community Development Division.

IMPLEMENTATION SCHEDULE: Ongoing - continuation/expansion of an existing program.

IX-E HOUSING ASSISTANCE

PROGRAM/ACTION DESCRIPTION: Maintain membership in Orange County Housing Authority to qualify City residents for Section 8-Existing housing assistance administered by the Housing Authority. Provide information on the availability of Housing Authority programs to qualified residents.

OBJECTIVES/ANTICIPATED RESULTS: Provide housing assistance to qualified very low-, low- and moderate-income households. As of January 1987, 450 households were receiving Section 8-Existing assistance. During 1986, the number of households receiving assistance increased by 33 households. This level of assistance is expected to be maintained as a continuation of the current Section 8 program or as a somewhat revised program.

Summary of Quantified Objectives

<u>Project Title</u>	<u>89-90</u>	<u>90-91</u>	<u>91-92</u>	<u>92-93</u>	<u>93-94</u>	<u>Total</u>
Section 8	33	33	33	33	33	165

FUNDING SOURCES: No local funds required.

RESPONSIBLE DEPARTMENTS/AGENCIES: Orange County Housing Authority and City Manager/Housing and Community Development Division.

IMPLEMENTATION SCHEDULE: Ongoing - continuation of an existing program.

IX-F SHARED HOUSING

PROGRAM/ACTION DESCRIPTION: Direct people to the Golden Timers Senior Center, or other such organizations for shared housing assistance. The Center has been assisting people, predominantly senior citizens, find roommates to help reduce their individual housing costs.

OBJECTIVES/ANTICIPATED RESULTS: Allows individuals to share housing to reduce individual costs to an affordable level for senior citizens. The Center averages 10 to 12 matches per month.

Summary of Quantified Objectives

<u>Project Title</u>	<u>89-90</u>	<u>90-91</u>	<u>91-92</u>	<u>92-93</u>	<u>93-94</u>	<u>Total</u>
Shared	120	120	120	120	120	600

FUNDING SOURCES: No City funds required.

RESPONSIBLE DEPARTMENTS/AGENCIES: City Manager/Housing and Community Development Division.

IMPLEMENTATION SCHEDULE: Ongoing - continuation of an existing program.

GOAL X: PROVISION OF ADEQUATE SITES

It is the goal of the City of Costa Mesa to provide adequate, suitable sites for residential use and development of a range of housing that varies sufficiently in terms of cost, design, size, location, and tenure to meet the housing needs of all segments of the community at a level no greater than that which can be supported by the infrastructure.

282. Establish regulatory policies and controls which will encourage well designed planned residential developments and provide adequate open space, recreational facilities, off-street parking, circulation, and environmental amenities within housing project areas - without compromising the affordability of newly constructed residential units.
283. Establish regulatory policies and controls which will encourage the development of single-family detached housing types (i.e., small lot or zero-lot line subdivisions) which are affordable to first-time homebuyers.
284. Ensure that residential densities can be supported by the infrastructure and that high density residential areas are not permitted in areas which cause incompatibility with existing single-family areas.
285. Encourage the conversion of existing marginal or vacant commercial and/or industrial land to residential, where feasible and consistent with environmental conditions suitable for new residential development. This does not preclude the initiation of such actions by the City.
286. Provide opportunities for the development of well planned and designed projects which, through vertical or horizontal integration, provide for the development of compatible residential, commercial, industrial, institutional, or public uses within a single project or neighborhood.
287. Cooperate with large employers, the Chamber of Commerce, and major commercial and industrial developers to identify and implement programs to balance employment growth with the ability to provide housing opportunities affordable to the incomes of the newly created job opportunities.
288. Continue to allocate portions of the City's Community Development Block Grant funds for the acquisition and write-down of land costs to increase the supply of low-and moderate-income housing opportunities.

289. Consider the effects of new employment, particularly in relation to housing demands, when new commercial or industrial development is proposed.
290. Consider the potential impact on housing opportunities and existing residential neighborhoods when reviewing rezoning petitions affecting residential properties.
291. Continue to allocate portions of the City's CDBG funds to subrecipients who provide shelter for the homeless.
292. Identify potential sites for residential development and emergency shelters for the homeless.

The following programs have been adopted to realize the attainment of GOAL X and to implement the above policies.

X-A ZONING ORDINANCE REVIEW

PROGRAM/ACTION DESCRIPTION: Include in the evaluation of proposed amendments to Municipal Code provisions affecting residential construction and development an assessment of the impacts of the proposed regulations and/or development standards on housing costs.

OBJECTIVES/ANTICIPATED RESULTS: To ensure that newly adopted residential development standards and/or processing requirements do not adversely impact housing costs.

FUNDING SOURCES: Department/Division budgets provided by the General Fund.

RESPONSIBLE DEPARTMENTS/AGENCIES: Development Services Department.

IMPLEMENTATION SCHEDULE: Ongoing - 1988-1989 revision of low density residential criteria and setback and coverage criteria, 1990-1991 ordinance clean-up.

X-A (A) OPPORTUNITIES FOR FIRST-TIME HOMEBUYERS

PROGRAM/ACTION DESCRIPTION: Develop residential zoning districts and development standards which encourage the development of single-family housing products (i.e., small lot or zero-lot line subdivisions) which are affordable to first-time homebuyers.

OBJECTIVES/ANTICIPATED RESULTS: To increase ownership housing opportunities for prospective first-time homebuyers.

FUNDING SOURCES: Department/Division budgets provided by the General Fund.

RESPONSIBLE DEPARTMENTS/AGENCIES: Development Services Department.

IMPLEMENTATION SCHEDULE: Ongoing - Planned Development Residential - Low and Medium Density zones amended to include standards for

small lot subdivision in 1989. Review small lot single-family standards in 1992.

X-B LAND ACQUISITION

PROGRAM/ACTION DESCRIPTION: Acquisition of privately owned land to assemble a site(s) suitable for the development of new housing for very low-, low- and/or moderate-income seniors, handicapped persons, or families. Specific components include acquisition, assemblage of parcels into site(s) large enough to permit development of new residential units, relocation assistance to displaced tenants, clearance of structures acquired and site preparation, and sale of site(s) to private developer utilizing write-down method. CDBG funds were used in conjunction with the Lincoln Properties Project at Park Center which will produce 160 apartments of which 40 will be at affordable rates. Section 108 loan against future CDBG funding is also available.

OBJECTIVES/ANTICIPATED RESULTS: Acquire a site(s) in order to construct additional very low-, low- and moderate-income residential units. Construct 50 senior citizen units on the Mardan site.

FUNDING SOURCES: Community Development Block Grant and Section 108 loan against future CDBG funds.

RESPONSIBLE DEPARTMENTS/AGENCIES: City Manager/Housing and Community Development Division.

IMPLEMENTATION SCHEDULE: Ongoing.

X-C MIXED USE DEVELOPMENTS

PROGRAM/ACTION DESCRIPTION: Utilize the City's existing Planned Development Zones to encourage private market development of mixed use projects to integrate compatible residential, commercial, industrial, and institutional uses into a single development. Review existing development policies and regulations to provide additional incentives to further encourage development of mixed use projects and to determine the feasibility of such projects within all density/intensity ranges. This program was employed to encourage the 770-unit project in The Lakes mixed use project and could be used in the development of other large parcel developments and at other density levels.

OBJECTIVES/ANTICIPATED RESULTS: Integrate employment and housing opportunities into a unified development or single building.

FUNDING SOURCES: Department/Division budgets provided by the General Fund.

RESPONSIBLE DEPARTMENTS/AGENCIES: Development Services Division.

IMPLEMENTATION SCHEDULE: Ongoing - include Urban Center Mixed Use and Business Park Mixed Use as land use designations in 1990 General Plan.

X-D HOUSING SUPPLY IMPACT ASSESSMENT

PROGRAM/ACTION DESCRIPTION: Require an analysis of the potential impacts of major employment-generating development on the local housing market. Assessment may be included in project EIR or other review procedure/process.

OBJECTIVES/ANTICIPATED RESULTS: Determine potential impact of major employment-generating developments on local housing market prior to approval of proposed development, while limiting new permanent employment-generating land uses where housing impacts are determined to be unacceptable.

FUNDING SOURCES: Department/Division budgets provided by the General Fund.

RESPONSIBLE DEPARTMENT/AGENCIES: Development Services Division.

IMPLEMENTATION SCHEDULE: Ongoing - continuation of existing policy - review housings/jobs ratio in 1990 General Plan EIR.

X-E REZONE REVIEW

PROGRAM/ACTION DESCRIPTION: Include in the evaluation of rezone requests involving residential properties an analysis of the potential impacts of the rezone on the inventory of developable residential land and the City's existing and future housing stock.

OBJECTIVES/ANTICIPATED RESULTS: Determine impact of rezone requests on the City's existing and future housing supply.

FUNDING SOURCES: Department/Division budgets provided by the General Fund.

RESPONSIBLE DEPARTMENTS/AGENCIES: Development Services Division.

IMPLEMENTATION SCHEDULE: Ongoing - continuation of existing policy.

X-F DEVELOPMENT MONITORING PROGRAM

PROGRAM/ACTION DESCRIPTION: Continue program to monitor the extent of residential, commercial, and industrial development on an annual basis. Sufficient detail should be provided to monitor employment growth and housing production.

OBJECTIVES/ANTICIPATED RESULTS: Maintain balance of employment growth and housing production.

FUNDING SOURCES: Department/Division budgets.

RESPONSIBLE DEPARTMENTS/AGENCIES: Development Services Division.

IMPLEMENTATION SCHEDULE: Ongoing - continuation of existing policy.

X-G CDBG FUNDING FOR HOMELESS SHELTER

PROGRAM/ACTION DESCRIPTION: Allocate a portion of the City's CDBG funds to sub-recipients who provide shelter for the homeless.

OBJECTIVES/ANTICIPATED RESULTS: Provide homeless shelter support and expansion through existing service agencies.

FUNDING SOURCES: Community Development Block Grant.

RESPONSIBLE DEPARTMENTS/AGENCIES: City Manager/Housing and Community Development Division.

IMPLEMENTATION SCHEDULE: Ongoing.

X-H ADEQUATE SITES

PROGRAM/ACTION DESCRIPTION: Keep an updated inventory of vacant sites. Provide this inventory to developers and service agencies interested in producing affordable housing and/or emergency shelters for the homeless.

OBJECTIVES/ANTICIPATED RESULTS: Provide information on available vacant land.

FUNDING SOURCES: Department/Division budgets provided by the General Fund.

RESPONSIBLE DEPARTMENTS/AGENCIES: Development Services Division.

IMPLEMENTATION SCHEDULE: Ongoing.

X-I HOMELESS SHELTER ORDINANCE

PROGRAM/ACTION DESCRIPTION: Amend the Municipal Code to specifically allow homeless shelters in appropriate areas subject to standard conditions.

OBJECTIVES/ANTICIPATED RESULTS: Facilitate the development of homeless shelters by standardizing the City's permitting process.

FUNDING SOURCES: Department/Division budgets.

RESPONSIBLE DEPARTMENTS/AGENCIES: Development Services Division.

IMPLEMENTATION SCHEDULE: Prepare ordinance 1992.

X-J SINGLE ROOM OCCUPANCY HOTELS

PROGRAM/ACTION DESCRIPTION: Provide basic, safe housing for low income individuals in proximity to transit and service jobs.

OBJECTIVES/ANTICIPATED RESULTS: Facilitate the development of SRO hotels by allowing such development in commercial areas. Convert existing hotels or construct new SRO hotels to house the working

poor, homeless, senior citizens, students and others in need of basic, safe housing.

FUNDING SOURCES: Department/Division budgets and possible CDBG funding.

RESPONSIBLE DEPARTMENTS/AGENCIES: Development Services Division.

IMPLEMENTATION SCHEDULE: Prepare implementing policy/ordinance 1991.

GOAL XI: ACCESSIBILITY

It is the goal of the City of Costa Mesa to ensure that all existing and future housing opportunities are open and available to all social and economic segments of the community without discrimination on the basis of race, color, religion, sex, national origin or ancestry, marital status, age, household composition or size, or any other arbitrary factors.

293. Support the intent and spirit of equal housing opportunities as expressed in the Civil Rights Act of 1886, Title VII of the 1968 Civil Rights Act, California Rumford Fair Housing Act, and the California Unruh Civil Rights Act.
294. Continue to support efforts to protect equal housing opportunities.
295. Provide density bonuses or other incentives (exemption from development or processing fees, participation in costs of off-site improvements and/or land acquisition, or exemption from certain development standards) to developers of residential projects which provide a specified percentage of the units meeting specialized housing needs. Density bonuses may be provided when the bonus units do not allow the project's resulting density to exceed the General Plan designation density limit.
296. Provide financial incentives in lieu of density bonus units in residential projects containing units for specialized housing needs if the proposed density exceeds that allowed by the General Plan designation of the property. Require the review of such projects by Planning Commission and City Council.
297. Develop programs and policies to address the housing needs of senior citizens.

The following programs have been adopted to realize the attainment of Goal XI and to implement the above policies.

XI-A FAIR HOUSING ASSISTANCE

PROGRAM/ACTION DESCRIPTION: Obtain services from the Fair Housing Council of Orange County or similar agencies.

OBJECTIVES/ANTICIPATED RESULTS: Provide specialized housing services to the citizens of Costa Mesa to ensure equal access to available housing opportunities.

FUNDING SOURCES: Community Development Block Grant.

RESPONSIBLE DEPARTMENTS/AGENCIES: City Manager/Housing and Community Development Division and Fair Housing Council of Orange County or similar agencies.

IMPLEMENTATION SCHEDULE: Ongoing - continuation of existing policy.

XI-B INCENTIVES FOR SPECIALIZED HOUSING NEEDS

PROGRAM/ACTION DESCRIPTION: Investigate incentives which can be implemented to encourage the development of housing opportunities for specialized housing needs. The Redevelopment Plan for Project Area No. 1 contains a density bonus incentive to encourage such housing in new residential developments.

OBJECTIVES/ANTICIPATED RESULTS: Increase supply of housing opportunities for handicapped or disabled persons.

FUNDING SOURCES: Department/Division budgets provided by the General Fund.

RESPONSIBLE DEPARTMENTS/AGENCIES: Development Services Department.

IMPLEMENTATION SCHEDULE: Complete study and prepare ordinance in 1992.

GOAL XII: HOUSING OPPORTUNITIES

It is the goal of the City of Costa Mesa to provide and maintain an adequate range of housing accommodations which serve all social and economic segments of the community and provide a reasonable range of choice in terms in unit, type, design, size, price, location, and tenure, with particular emphasis and encouragement for low density, owner-occupied residences.

298. Investigate all reasonable and fiscally prudent means to provide opportunities for all segments of the City's population to obtain a decent home in a suitable living environment within all areas of Costa Mesa.
299. Encourage and support the construction of residential developments which will meet the needs of families and individuals with specialized housing requirements.
300. Establish a residential development monitoring program to assess the changes in Costa Mesa's housing stock over time and to evaluate the effectiveness of the City's housing program.

301. Encourage additional specialized amenities in excess of minimum State requirements to improve accessibility to and within projects with handicap units.
302. Review existing neighborhoods which are zoned R2 but developed largely with single-family residences and redesignate these areas as Low Density Residential to encourage preservation of owner-occupied dwelling units where feasible.

The following programs have been adopted to realize the attainment of Goal XII and to implement the above policies.

XII-A CONDOMINIUM CONVERSIONS

PROGRAM/ACTION DESCRIPTION: Administration of existing Municipal Code provisions regulating the conversion of existing apartments to condominiums, community apartments, stock cooperatives, or other forms of ownership.

OBJECTIVES/ANTICIPATED RESULTS: Maintain supply of rental units in an identified housing shortage.

FUNDING SOURCES: Department/Division budgets provided by the General Fund.

RESPONSIBLE DEPARTMENTS/AGENCIES: Development Services Department.

IMPLEMENTATION SCHEDULE: Ongoing - continuation of existing policy.

XII-B MOBILE HOME PARK CONVERSION GUIDELINES

PROGRAM/ACTION DESCRIPTION: State Planning and Zoning Law Sections 65863.7 - 65863.8 requires subdividers and managers of existing mobile home parks to prepare a report on the impact of the conversion on displaced tenants. This program will result in the adoption of detailed administrative guidelines identifying the specific content and format of all such reports prepared for conversion requests in the City of Costa Mesa. These guidelines shall be drafted to allow the imposition of reasonable conditions to mitigate any adverse impacts of the conversion on existing park tenants. Specific mechanisms to allow full public debate and consideration of the impact report and conversion request shall also be identified in the guidelines.

OBJECTIVES/ANTICIPATED RESULTS: Protect existing supply of mobile homes and ensure that existing park tenants are not adversely impacted by conversion of existing mobile home parks.

FUNDING SOURCES: Department/Division budgets provided by the General Fund.

RESPONSIBLE DEPARTMENTS/AGENCIES: Development Services Department

IMPLEMENTATION SCHEDULE: Prepare draft guidelines 1991-92.

XII-C HOUSING PROGRAM EVALUATION

PROGRAM/ACTION DESCRIPTION: Conduct annual reviews and updates of Housing Subelement sections relating to residential growth and development trends, population projections, vacancy rates, and housing costs. Conduct thorough evaluation of all housing programs at least every five years.

OBJECTIVES/ANTICIPATED RESULTS: Evaluate the effectiveness of the housing program in accomplishing housing objectives and effectuating the goals and policies of the Housing Subelement.

FUNDING SOURCES: Department/Division budgets provided by the General Fund.

RESPONSIBLE DEPARTMENTS/AGENCIES: Development Services Department.

IMPLEMENTATION SCHEDULE: Ongoing - continuation of existing policy annual review.

GOAL XIII: COORDINATION AND COOPERATION

It is the goal of the City of Costa Mesa to coordinate local housing efforts with appropriate federal, state, regional, and local governments and/or agencies and to cooperate in the implementation of intergovernmental housing programs to ensure maximum effectiveness in solving local and regional housing problems.

303. Investigate alternative intergovernmental arrangements and program options to deal with areawide housing issues and problems.
304. Develop a cooperative program with surrounding cities to work toward a balance of housing and employment opportunities within the region.
305. Consider pooling a portion of the City's Community Development Block Grant funds with surrounding jurisdictions to produce affordable housing, including the single room occupancy concept.

The following programs have been adopted to realize the attainment of Goal XIII and to implement the above policy.

XIII-A REVIEW OF HOUSING ELEMENTS

PROGRAM/ACTION DESCRIPTION: Conduct a thorough review of surrounding cities of Huntington Beach, Fountain Valley, Santa Ana, Irvine, and Newport Beach and the County of Orange to identify common housing concerns and to provide foundation for the possible joint resolution of problems of mutual interest.

OBJECTIVES/ANTICIPATED RESULTS: Coordinate housing programs to deal with housing issues on an areawide scale.

FUNDING SOURCES: Department/Division budgets provided by the General Fund.

RESPONSIBLE DEPARTMENTS/AGENCIES: Development Services Department.

IMPLEMENTATION SCHEDULE: Review 1990-1991.

XIII-B COOPERATIVE HOUSING PROGRAMS

PROGRAM/ACTION DESCRIPTION: Investigate alternative mechanisms (areawide housing councils, joint powers agreements, and other arrangements) and program options to deal with areawide housing issues and problems.

OBJECTIVES/ANTICIPATED RESULTS: Develop cooperative arrangements with other localities, agencies, or organizations to resolve housing issues and problems which extend beyond the jurisdictional boundaries and implementation capabilities of the City of Costa Mesa.

FUNDING SOURCES: Department/Division budgets provided by the General Fund.

RESPONSIBLE DEPARTMENTS/AGENCIES: Development Services Department.

IMPLEMENTATION SCHEDULE: Complete study and pursue joint agreements in 1993.

XIII-C FAIRVIEW HOSPITAL HOUSING PROJECT

PROGRAM/ACTION DESCRIPTION: Approximately 60 acres of underutilized land on the grounds of Fairview State Hospital have been leased to a private developer to construct 572 units for hospital employees and transitional clients. Unfilled units will be made available to residents of Costa Mesa whose income is less than 80 percent of the Orange County median income and, if vacancies still exist, will be made available to other persons employed in Costa Mesa. Subsequent units will be available at below market rates because of the elimination of land acquisition costs from the rental schedule.

OBJECTIVES/ANTICIPATED RESULTS: 144 units were constructed in 1985-86 as Phase I. Phases IIA, IIB, and IIC, totalling 406 units, are nearing completion. Rent schedules submitted at the time of approval indicate that all units would be affordable to moderate-income households. Of the total units, approximately 10 percent would be affordable to low-income households.

FUNDING SOURCES: Department/Division budgets provided by the General Fund.

RESPONSIBLE DEPARTMENTS/AGENCIES: Development Services Department, City Manager/Housing and Community Development Division.

IMPLEMENTATION SCHEDULE: Ongoing - continuation of existing program through project completion.

GOAL XIV: GROWTH MANAGEMENT

It is the goal of the City of Costa Mesa to reduce traffic congestion and to ensure that adequate transportation facilities are provided for existing and future residents of the community through effective and comprehensive growth management practices consistent with the Land Use Element.

Objective XIV-A:

To provide and maintain a circulation system that operates within established traffic level of service standards.

Policies:

The following policies have been established to implement Objective XIV-A:

306. The established traffic level of service shall be level of service (LOS) D or better for all intersections under the sole control of the city, except for the intersection of Harbor and Gisler which shall have an established level of service (LOS) E or better.

307. The established level of service standard shall not apply to intersections under the jurisdiction of another city, the County of Orange or the State of California or to intersections included on the Deficient Intersection List established by the Inter-Jurisdictional Planning Forum for the Growth Management Area in which the city participates.

308. The traffic level of service will be measured by the Traffic Level of Service Policy Implementation Manual established by the Local Transportation Authority.

Objective XIV-B:

To ensure that the transportation related impacts of development projects are mitigated to the fullest extent possible, in conformance with the established traffic level of service policies.

Policies:

The following policies have been established to implement Objective XIV-B:

309. Circulation improvements required to provide or attain the established traffic level of service standard at an intersection to which a development project contributes measurable traffic shall be completed within three years of issuance of the first building permit for said project or prior to occupancy of said project, whichever occurs first.

310. Every new development project shall pay its share of costs associated with the mitigation of project generated impacts, including regional traffic mitigation.
311. A traffic mitigation fee shall be established for circulation system improvements to the Master Plan of Highways within the community.
312. The city shall work with the adjacent jurisdictions to determine an acceptable impact fee for areawide improvements within the Growth Management Area in which the city participates.
313. All development contributing measurable traffic to intersections on the GMA Deficient Intersection List shall be assessed a mitigation fee, as determined by the jurisdictions within the GMA.
314. A Deficient Intersection Fund shall be established to make improvements to those intersections identified by the GMA as necessary to achieve the established traffic level of service.
315. New Measure M sales tax revenues shall not be used to replace private developer funding which has been committed for any project or normal subdivision obligations.

Objective XIV-C:

To ensure that new land use approvals and development are phased with commensurate roadway capacities.

Policies:

The following policies have been established to implement Objective XIV-C:

316. Development Phasing Plans shall be required for all discretionary land use entitlement and approvals and shall be approved by the Planning and Transportation Services Divisions prior to the issuance of building permits.
317. Development Phasing Plans shall include an overall buildout plan which can demonstrate the ability of the circulation system to support the proposed level of development.
318. The City shall monitor the implementation of the Development Phasing Plan for each project on an annual basis and shall prepare an annual cumulative report of all development approvals and the required traffic improvements necessary to support the approved levels of development.

Objective XIV-D:

To incorporate additional provisions of Measure M into the General Plan Growth Management Element to provide a comprehensive and complete statement of the city's growth management policies.

Policies:

The following policies have been established to implement Objective XIV-D:

319. The City of Costa Mesa shall participate in the Inter-Jurisdictional Planning Forums within its established Growth Management Area as adopted by the Regional Planning Advisory Council.

320. The city's seven-year capital improvement program shall be adopted and maintained in conformance with the provisions of Measure M for the purpose of maintaining the established level of service standard.

321. Recognizing the constraints of existing physical development conditions, the city shall strive to achieve a balance of land uses whereby residential, commercial, industrial and public land uses are proportionally balanced.

322. The city shall continue to promote traffic reduction strategies through the measures included in the adopted Transportation Demand Management Ordinance.

(ELEMENT.2)



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